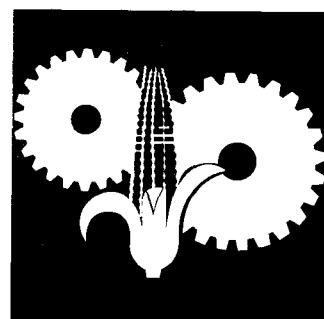
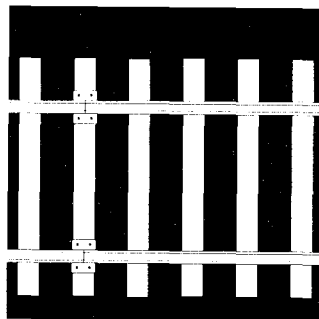
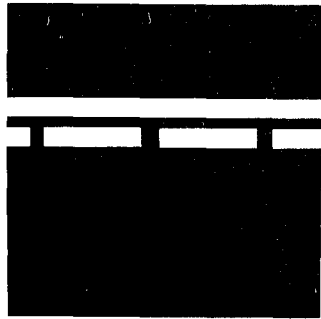


THE STATE OF TRANSPORTATION IN ILLINOIS



LIFELINES TO THE ECONOMY



Illinois Department of Transportation

THE STATE OF TRANSPORTATION IN ILLINOIS

Lifelines To The Economy

Prepared by the Illinois Department of Transportation
Springfield, Illinois, March 1997

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INTRODUCTION

Lifelines To The Economy

An adequate transportation network is indispensable to a healthy economy. It is essential for the distribution of products and services to local, regional, state, national and international markets. It is essential for getting people to work and to the other places where they participate in the economy, such as retail stores, health services, schools, restaurants and theaters. It is one of the most important assets a state can have to retain and attract businesses.

The level of investment in transportation has a significant impact on the economy. Recent research presented to the American Association of State Highway and Transportation Officials (AASHTO) shows that increased transportation capital investment lowers production costs for industry and raises productivity. The research concludes that these benefits are felt broadly across the economy and continue over time.

Illinois: A National Transportation Hub

With its complex and extensive surface transportation network, Illinois is a crossroads for the nation. Its interstate system is the third largest in the nation and includes four transcontinental routes. The public transportation system in northeastern Illinois is the second largest in the nation, providing 535 million trips a year over an intricate network of rapid transit, commuter rail and bus routes. Illinois also has the second largest rail freight system in the nation, serving as a rail gateway to national and international markets to the East, Gulf and West Coasts and to Canada and Mexico. Finally, the state is a major hub for passenger trains on Amtrak's national system and supports intercity rail passenger service over four corridors in Illinois.

Illinois' Surface Transportation Needs

While this network of highways, transit and rail represents a multi-billion dollar investment over a period of more than a century, it also presents an enormous ongoing challenge to maintain it in good condition. Transportation facilities and equipment are in constant need of repair and rehabilitation as a result of aging and use. Travel is growing. In fact, it is expected to double over the next thirty years. This will intensify the demand for repairs, improvements and increased capacity. Illinois' surface transportation needs for the next five years (FYs 1998-2002) are summarized in Table 1.

Table 1
Summary of Surface Transportation Capital Needs
FYs 1998-2002 in Millions of Dollars

Needs	Estimated Cost	Funding Available	Funding Shortfall
Interstate Highways			
• Resurface 763 miles	967	656	311
• Reconstruct 29 miles	925	350	575
• Replace/rehabilitate 234 structures	407	275	132
• Improve interchanges	88	60	28
• Improve 19 rest areas or weigh stations	21	6	15
• Safety, modernization, & miscellaneous (guardrail, signing, erosion control, etc.)	97	46	51
• Improve capacity on 13 miles	379	7	372
Subtotal	2,884	1,400	1,484
Strategic Regional Arterials			
• Improve 205 miles, 51 intersections, and replace/rehab. 42 bridges	1,596	97	1,499
• Replace/rehab. 1 high-cost bridge	14	14	0
Subtotal	1,610	111	1,499
Major Arterials/Marked Routes			
• Widen & resurface 176 miles	92	50	42
• Widen 113 miles	59	0	59
• Resurface 3,996 miles	1,754	501	1,253
• Replace/rehabilitate 746 bridges	820	217	603
• Replace/rehab. 11 high-cost bridges	239	82	157
Subtotal	2,964	850	2,114
Other State Highway Systems			
• Widen & resurface 577 miles	681	94	587
• Widen 315 miles	399	0	399
• Resurface 2,568 miles	1,895	290	1,605
• Replace/rehabilitate 866 bridges	952	166	786
• Replace/rehab. 18 high-cost bridges	456	121	335
• Improve capacity on 1,135 miles	6,497	234	6,263
• Improve capacity at 75 intersections	84	74	10
• Improve 810 low-cost intersections	231	21	210
Subtotal	11,195	1,000	10,195
Safety			
• Improve 3,230 high accident locations	875	71	804
• Improve 189 rail-highway crossings	291	26	265
Subtotal	1,166	97	1,069
Highways for Economic Development & Expansion			
• High visibility projects	2,923	42	2,881
• Other major highway projects	46	46	0
• Access roads for economic development and tourism	191	51	140
Subtotal	3,160	139	3,021

Table 1 continued			
Needs	Estimated Cost	Funding Available	Funding Shortfall
Local Road Systems (County, Township, and Municipal Roads)	13,783	2,524	11,259
Public Transportation			
• Northeastern Illinois system preservation	4,802	1,514	3,288
• Expansion	1,071	409	662
• Downstate Urban Systems	86	59	27
• Rural Public Transportation	26	6	20
Subtotal	5,985	1,988	3,997
Rail Freight Transportation			
• Rail freight improvement projects	55	30	25
Intercity Rail Passenger Transportation			
Preserve Existing Service			
• Track and signal improvements	7.2	0	7.2
• Station improvements	2.3	0	2.3
High-Speed Rail Upgrade			
• Positive Train Control	30.9	17.2	13.7
• High-Speed Rail Capital Cost	436.1	313.0	123.1
Subtotal	476.5	330.2	146.3
TOTAL	43,278	8,469	34,809

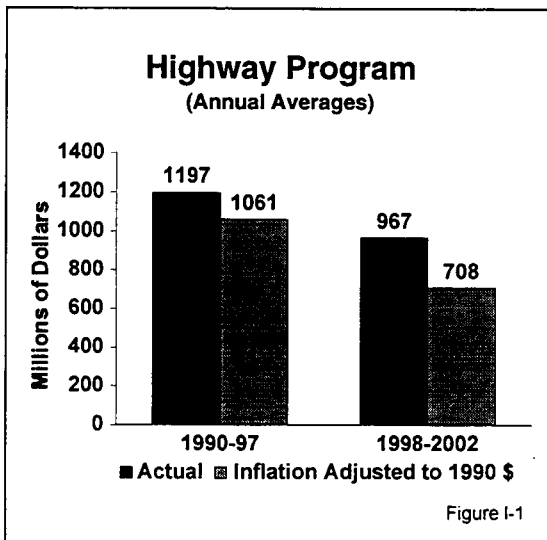
Funding Outlook

The state's current revenues cannot adequately address these needs. Funding for highways is declining and transit funding is approaching a crisis. This funding situation is exacerbated by the impact of inflation which continues to erode the purchasing power of each scarce transportation dollar.

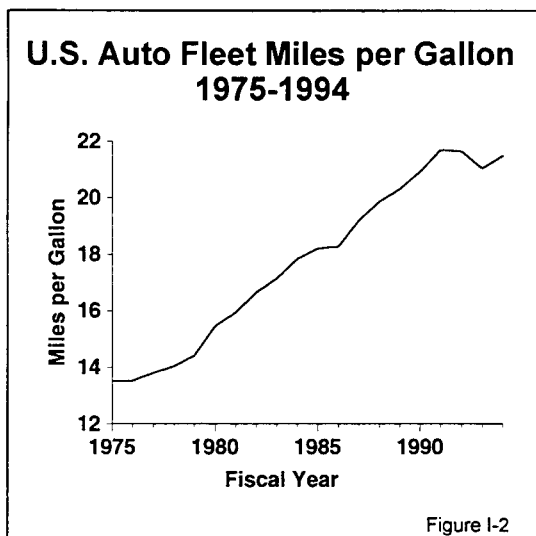
Illinois' economic future depends on how its transportation needs are addressed. This report provides a comprehensive assessment of the state's surface transportation needs and discusses the ability of current revenues to meet those needs. In addition to the summary table, a separate Appendix provides detailed lists of needs for highways, public transportation and rail transportation.

CHAPTER I

FUNDING RESOURCES

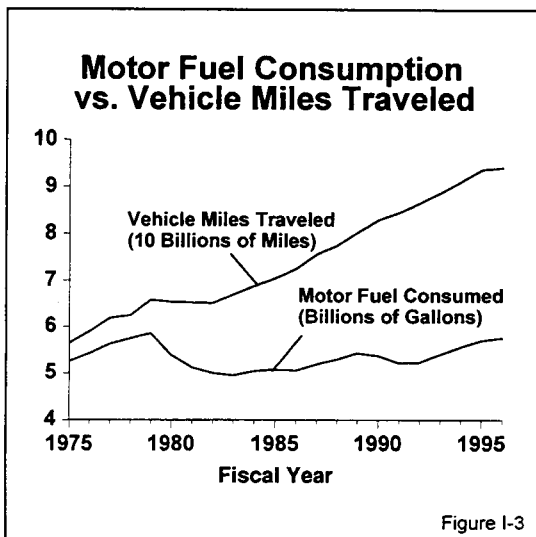
Highway Program Resources

The state's resources to finance highway improvements are declining. This is due to little growth in state highway user fee revenues and fewer federal dollars for highways. The next five-year highway program (FYs 1998-2002) will average only \$967 million a year compared to the \$1.197-billion average annual program for FYs 1990-1997 (see Figure I-1). In 1990 dollars, this was equivalent to a \$1.061-billion program. When the average annual program for the next five years is adjusted for inflation to 1990 dollars, it becomes equivalent to \$708 million. This represents an annual reduction in constant dollars of \$353 million in buying power over these two time periods.

State Motor Fuel Tax

The state motor fuel tax (MFT) at a fixed 19 cents per gallon is a major source of revenue for highways. The annual growth in taxable fuel in Illinois during the period from 1989 to 1996 averaged less than 1 percent. The growth in MFT revenue is directly related to the vehicle miles traveled and fuel consumption. The fuel efficiency of the fleet has leveled off and the good condition of the state's economy has increased travel. Over the next five years, an anticipated growth of 1.7 percent annually is projected for MFT revenues.

Corporate Average Fuel Economy (CAFE) standards set by Congress forced auto manufacturers to continually improve the fuel efficiency of their new cars and trucks. As more and more of these vehicles have been added to the existing fleet, average fuel economy has steadily improved every year. The CAFE standards have been frozen since 1990. Improvements to the average on-road fuel efficiency continue to be made, although more gradually now than in earlier years. This continues to erode growth in fuel consumption and fuel tax revenues. Figure I-2 shows the trend in fuel efficiency since 1975.



For more than a decade, the rate of growth in travel has been consistently higher than the rate of growth in fuel consumption. In fact, 1996 motor fuel consumption in the state was still lower than in 1979 while travel has gone up 43 percent, increasing wear on the road system and demand for additional capacity (see Figure I-3). Both are projected to grow in the future, but travel will still grow at a higher rate than fuel consumption. The disparate rates of growth place a heavy burden on the state's ability to meet highway repair and improvement needs.

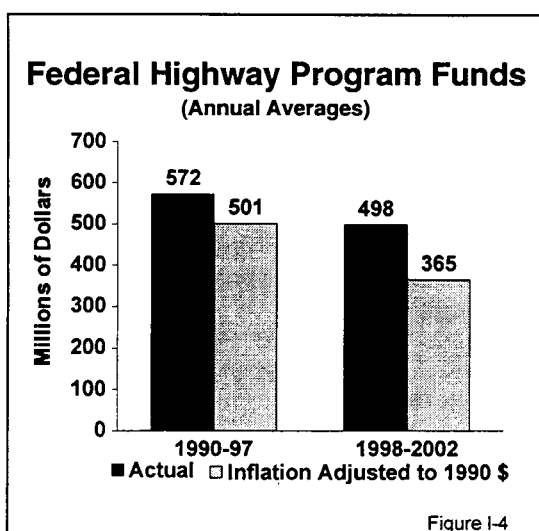
State Motor Vehicle Registration Fees

Another major revenue source for highways is motor vehicle registration fees. The growth rate for this revenue source is projected at 1.2 percent a year over the next five years. This rate reflects modest population growth in Illinois, plus the fact that most families are not adding new vehicles to their households at the pace experienced in the late 1960s and early 1970s. During that period, vehicle registrations grew three times faster than they are projected to grow in the next five years.

Federal Funding

The federal government levies an 18.4-cent motor fuel tax and various excise taxes that are used for transportation purposes. Those funds are deposited in the Highway Trust Fund in Washington, except for 4.3 cents of the federal gas tax that is for deficit reduction and deposited in the General Fund. Congress annually passes authorization and appropriation legislation that returns a portion of these funds to the states in federal aid.

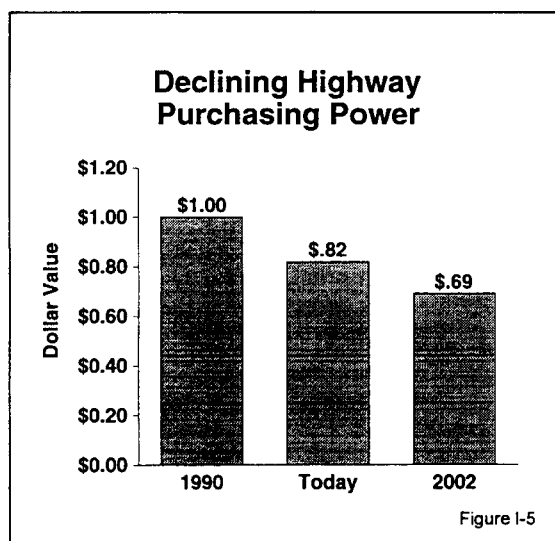
The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) is the current legislation that apportions funds to the states. ISTEA expires on September 30, 1997, and new federal legislation will need to be enacted by Congress. Illinois was very successful under ISTEA, receiving the largest percentage increase of any state. However, the future federal funding outlook is much more constrained. Congress has adopted a multi-year budget resolution which cuts transportation funding more than 14 percent in order to balance the federal budget by 2002.



Also, more than \$307 million of Illinois' ISTEA funding during the past two years was in the form of a one-time payback program for previous interstate construction. This funding will not be continued in the future.

During FYs 1990-1997, federal funds made up about 48 percent of the revenues for the highway construction program in Illinois. The average annual amount of federal funds for the FYs 1990-1997 programs was \$572 million. The average annual amount in new federal funding for FYs 1998-2002 is projected at \$498 million (see Figure I-4).

Inflation



In addition to the decline in actual dollars available for highways, inflation reduces the purchasing power of those limited funds and thereby the amount of highway work that can be undertaken. Inflation over the last seven years has been relatively low, an average of 3.3 percent a year. Based on the Consumer Price Index, the highway purchasing power of \$1.00 in 1990 is worth 82 cents today and is expected to decline to 69 cents by 2002 (see Figure I-5). This analysis is based on an average annual inflation rate of 3.3 percent a year through 1996 and assumes an inflation rate of 3 percent a year through 2002, as projected by Wharton Econometric Forecasting Associates.

Maximizing Investment

The department has been able to maintain a high investment level in highway capital improvement programs for an additional three years beyond original expectations. In 1989, approximately \$2.03 billion was estimated to be available for FYs 1995-1997. The final program amount for these three years was significantly higher at \$3.64 billion.

This was made possible by several factors. The exceptional and unsustainable funding success under ISTEA was one factor. Another factor was the major restructuring of the department in

FY 1992 which decreased administrative costs. By holding operating costs to a level well below inflation, the department was able to add \$427 million to its five-year highway capital improvement program. Despite having more miles of roadway to maintain, the department has reduced its staff to the lowest level in its history.

Other factors were also responsible for maintaining these high levels of highway capital improvements. These included a one-time speed-up in reimbursement of federal funds and higher than anticipated motor fuel tax collections due to the upswing of the state's economy. Local governments have also been among the beneficiaries of this bonus which made the extension of the direct local assistance programs possible.

Outlook for State Highway Program

The funding level from current revenues will not sustain the progress made during the seven years after the 1989 revenue package was enacted. During the period from FY 1990 to FY 1996, the department improved 6,964 miles of state highways and 1,696 bridges to reverse the crisis that faced the state in 1989. When comparing average annual accomplishments over the next five years, the department will be able to improve 21 percent fewer miles of highways and 42 percent fewer bridges than it did during the FY 1990-1996 period.

At this reduced level, the department will lose ground in reducing the backlog of rough roads, deficient bridges, and capacity problems. About 1,100 miles of state roads become rough and 150-200 state bridges become deficient each year and are added to the existing backlog of needs. By the end of FY 2002, the backlog of roads on the state system that need to be resurfaced or repaired will have grown to nearly 4,280 miles. This is a 78 percent increase from the 2,400-mile backlog before the last tax increase in 1989. The backlog of deficient bridges will increase from 985 in 1997 to approximately 1,175 in 2002. In addition, capacity improvement needs that have been identified on approximately 1,340 center-line miles of urban streets and other highways will not be able to be addressed.

Outlook for Local Governments

Local governments are experiencing problems in maintaining their roads and streets. The majority of local units of governments are assessing road and bridge taxes at the maximum rate allowed by law. Similar to the state, local programs are adversely affected not only by inflation but also by declining federal aid.

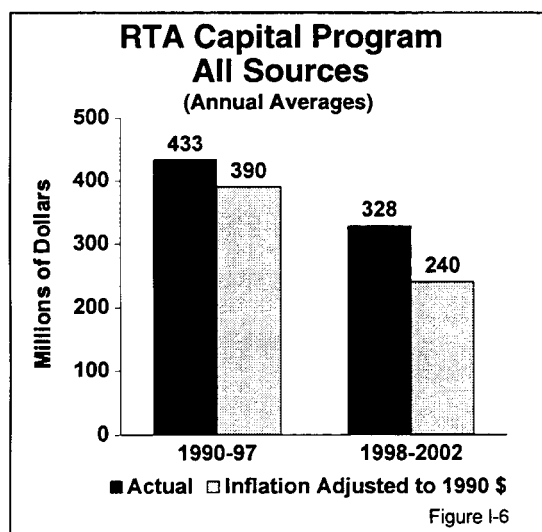
In addition, motor fuel tax and sales tax allotments are projected to show minimal growth over the next five years. Therefore, state assistance to local governments from these revenues is also expected to grow at a minimal rate, resulting in a reduction in purchasing power.

Over the next five years, local revenues for capital improvements, including federal aid, will average \$500 million annually. Approximately 60 to 65 percent of local revenues generated from state motor fuel and sales tax allocations and local property and other taxes will be required for maintenance, traffic, and administrative functions, leaving only a minimal amount for construction needs.

Transit Capital Funding

The ability of public transportation agencies to continue to provide adequate and safe service while increasing mobility to the public is seriously impaired by funding constraints. Federal capital funding for transit peaked in 1994 at nearly \$250 million but is expected to average only \$217 million per year for FYs 1998-2002 because of budget balancing efforts.

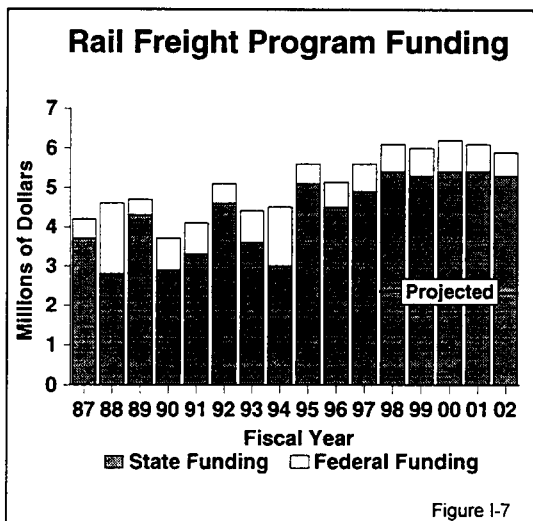
At the same time capital funds are declining, federal operating assistance has also dropped drastically. For FY 1996 the federal operating assistance for urbanized areas greater than 200,000 population decreased 44 percent from the previous year. Operating assistance for urbanized areas less than 200,000 population received a 25 percent reduction. The downward trend in federal operating assistance is expected to continue.



The problem of declining federal funds is compounded by depletion of state funds for capital projects. In 1990, the state authorized and funded a \$500-million five-year bond program for strategic capital improvements for northeastern Illinois. Resources from this program are now consumed. However, transit capital funding needs in this part of the state are still extensive. From 1990 to 1997, the Regional Transportation Authority (RTA) capital program averaged \$433 million per year. For 1998 to 2002, it is projected to average just \$328 million per year, a drop of 24 percent. When adjusted for inflation and converted to 1990 dollars, this number effectively drops from \$328 million to \$240 million (see Figure 1-6).

Faced with these circumstances, the gap between the available revenue and costs to maintain existing systems is widening. As capital assets deteriorate, local transit agencies face choices between raising fares or taxes and cutting service. Ultimately, the

Rail Freight Program Funding



lack of adequate capital funding to keep the systems up-to-date results in a drop in ridership, increasing operating costs, and growing deficits.

The Rail Freight Program is a key element in the state's economic development program. By upgrading existing lines or constructing new rail spur lines to new plant sites, the state is able to offer improved rail service as a major incentive to retaining economic activity or securing new economic activity and jobs. The program was originally created as a grant program, but to stretch limited funding resources, the department formulated the policy of loaning rather than granting funds whenever possible. The General Assembly subsequently enacted legislation establishing two revolving funds: the state loan fund and the federal loan fund.

In FY 1996, \$5.14 million was available for the program from a combination of state and federal sources. The General Revenue Fund (GRF) provided \$2.9 million; the federal loan fund added another \$640,000; and the state loan fund was the source for \$1.6 million (see Figure 1-7).

Intercity Rail Passenger Transportation

Currently the state provides assistance for operation of three daily round-trip Amtrak trains providing service between Chicago and downstate communities. Amtrak and the state signed an agreement in February 1997 to continue this basic service for the next three fiscal years. The department has identified \$9.5 million in beneficial capital projects for track and signal upgrades and station improvements. These projects will not only help preserve and enhance existing service but will also set the stage for further progress toward an eventual high-speed upgrade in service up to 125 miles per hour.

Additional needs which would permit attainment of high speed service include further train control and signal work, as well as a substantial investment in high-speed rail capital. These capital needs include high-speed diesel locomotives and train sets with tilt suspension and related projects such as crossing improvements, fencing, and limited acquisition of right of way. Unmet capital funding needs for all these components are estimated to total \$136.7 million.

CHAPTER II

INTERSTATE SYSTEM

The interstate system of highways is the most important lifeline for the economy of the nation as well as Illinois. Although it comprises only a little more than 1 percent of the nation's total miles of streets and highways, it carries more than 20 percent of all traffic and connects over 90 percent of the nation's cities with a population of more than 50,000. In Illinois, 27 percent of all travel is on the interstates. The interstate system is particularly important for commercial transportation. In Illinois, more than 52 percent of all goods shipped by highway move on the interstate system. In 1994, 61 percent of truck travel (in vehicle miles) in Illinois was on interstates. Keeping this system in good condition is critical to the economic well-being of the state.

Illinois, with 2,164 miles of interstate highways (including toll roads), ranks behind only Texas and California in total interstate miles. With four transcontinental routes passing through, Illinois is the crossroads for the national interstate system, as shown in Figure II-1. (See Sections A and B of the Appendix for detailed maps of Illinois.)

The interstate system has been a fundamental factor in the economic growth of the state. It has accommodated the growth of metropolitan areas and is enabling new growth in rural areas. Between 1987 and 1995, Illinois' gross state product rose from \$226 billion to \$349 billion, an increase of 54 percent. During this period, the number of people employed in Illinois grew by 600,000. The state will not continue its economic growth without an adequately maintained and improved system.

The state is a focal point for the production and assembly of materials entering the industrial areas in the Northwest, West, and Southwest. Illinois is also among the largest manufacturing states within the vast mid-continental market area. Most manufactured goods are transported on the state's interstate system.

The interstate system in Illinois provides vital transportation to the markets of Chicago and St. Louis and from there to all parts of the United States. Approximately three-fourths of the state's manufactured goods are produced in the metropolitan Chicago area. The St. Louis metropolitan area serves as an important trading center for the Mississippi Valley, the richest and most extensive agricultural section of the nation.

The interstate system has allowed for increased accessibility to sales areas, labor markets, supplies, and raw materials. Where conditions were favorable for economic expansion, the interstate system has served as a catalyst.

National Interstate Highway System



Figure II-1

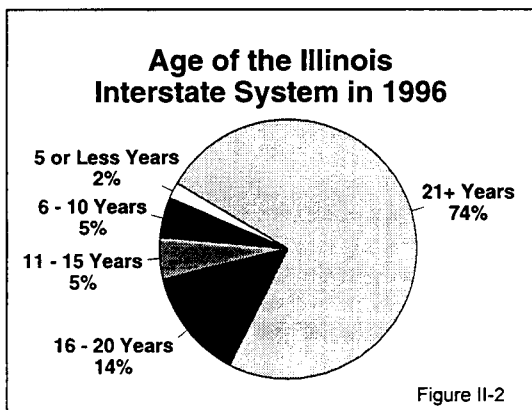
Travel Characteristics

Travel on the interstate system in Illinois has increased significantly in the last few years. Traffic grew on the average mile of interstate from 10.19 million vehicle miles of travel annually in 1989 to 11.96 million in 1995. This represents a 17 percent increase in just six years. This is also more than twice the rate of growth of travel on all highways and streets in the state. The rate of deterioration and improvement needs are, of course, directly influenced by the volume of traffic on the roads.

Truck traffic has had a particularly severe impact on the interstate system. First, truck travel on interstates grew at a faster rate between 1989 and 1995 than auto traffic. Second, a change in federal law in 1983 raised the size limit and the maximum allowable weight for trucks from 73,280 pounds to 80,000 pounds.

As the nation's leading freight transportation hub, Illinois has experienced a significant growth in truck traffic as industry responds to both expanding national and global economic opportunities. Illinois' interstate system thus carries not only larger and heavier trucks but also more truck traffic. The combination of heavier and more trucks speeds the deterioration of Illinois' interstates, requiring more frequent and extensive repairs.

Age of System



The age of the system also determines rehabilitation needs. Illinois was among the first states to start building the interstate system in the 1950s. Consequently, the age of the system is relatively advanced which increases maintenance requirements. The interstate system was designed to handle traffic adequately for 20 years. After that, rehabilitation needs begin. As Figure II-2 shows, 74 percent of the system in Illinois is now at least 21 years old, up from 41 percent just seven years ago. This means that a lot of interstate miles are wearing out at the same time and must be rehabilitated at the same time. In addition, significant portions of the system will soon require capacity improvements (such as adding lanes) to accommodate growing traffic volumes.

Rehabilitation Needs

The rapid growth in traffic volumes, especially from trucks, combined with increased weight limits, has accelerated the rehabilitation needs on Illinois' aging interstate system. Rehabilitation or improvement costs vary with the condition of the pavement or bridge. One mile of rural interstate costs about \$1 million to resurface and an average of \$6 million to reconstruct. However, major reconstruction of an urban interstate, such as the Stevenson Expressway project, is expected to cost as much as \$35 million a mile.

Resurfacing extends pavement life by 9 to 13 years but can be done only if the original pavement is essentially intact. When pavements reach the end of their design life of 20 years and the structural integrity fails, the much more costly option of reconstruction is required.

To assess rehabilitation needs, the department has an ongoing process called pavement management. A survey of highway conditions that includes an engineering analysis of pavement condition for each section of the primary roadway system is conducted on half the state every year. The interstate system is assessed every two years. (An excerpt from the "1995 Illinois Condition Rating Survey" is in Section C of the Appendix.) This condition rating, when considered with traffic volumes and functional usage, determines which sections of highway need to be improved now (backlog condition) and which highway sections will accrue to a deteriorated condition over the next five years.

In addition, the National Bridge Inspection Program requires inspection of each bridge for physical deterioration at least every two years. (See Section D of the Appendix for a detailed discussion of bridge management in Illinois and a copy of the National Bridge Inspection Standards.) Information thus gathered determines whether a bridge is in poor condition (structurally deficient) or inadequately designed to meet traffic needs (functionally obsolete). This bridge inspection data also determines which bridges need improvement today (backlog condition) and which bridges will need improvement over the next five years (accruing condition).

Based on the information from these two surveys, 792 miles of interstate pavement (excluding tollways) will need to be repaired over the next five years at an estimated cost of \$1.9 billion. This includes \$432 million required to complete the \$567-million Stevenson Expressway rehabilitation project. Replacing or rehabilitating 234 structures will cost an estimated \$407 million. (A detailed list

of interstate pavement and bridge rehabilitation needs is in Section E of the Appendix; a list of the major interstate reconstruction needs is provided in Section F of the Appendix.) Another \$206 million is needed for interchange, rest area and weigh station, and safety and miscellaneous improvements. These rehabilitation needs total \$2.5 billion. The available funding will allow the department to undertake only \$1.393 billion worth of the needed work, leaving \$1.1 billion unfunded.

Capacity Needs

In addition to rehabilitation needs, key segments of the interstate system have serious congestion problems. Congestion is particularly acute around the Chicago metropolitan area where many interstates are forced to carry much more traffic than they were designed to handle. Capacity improvements, such as adding lanes or improving interchanges, are extremely costly. Capacity improvements are currently needed on approximately 13 center-line miles of interstate at an estimated cost of \$379 million. Funding is available for \$7 million of those needs. (A list of interstate capacity needs is in Section G of the Appendix.) The following table summarizes the needs on Illinois' interstate system and compares the estimated cost with available funding.

Summary Table

Interstate Improvement Needs in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
Resurface 763 miles	967	656	311
Reconstruct 29 miles	925	350	575
Replace/rehabilitate 234 structures	407	275	132
Improve interchanges	88	60	28
Improve 19 rest areas or weigh stations	21	6	15
Safety, modernization, & miscellaneous (guardrail, signing, erosion control, etc.)	97	46	51
Improve capacity on 13 miles	379	7	372
Total	2,884	1,400	1,484

CHAPTER III

MAJOR RURAL ECONOMIC ARTERIALS (US AND ILLINOIS MARKED ROUTES)

In addition to the interstate system, there are other economically important arterial highways that must be maintained and improved. These consist of 8,788 miles of highways with US and Illinois route markings serving intercity transportation needs. These arterials are lifelines to all those communities not served directly by an interstate highway, giving them access to the economic marketplace in the next town and beyond via connection to interstate routes or to other modes.

Travel on these arterials also has been growing, although at a lower rate than on interstates. Notwithstanding this slower rate of traffic growth, deterioration still takes its toll and requires ongoing maintenance and improvements. Since the 1989 revenue package, the department has made great progress in reducing the backlog of narrow and rough roads and deficient bridges on the non-interstate marked system. The term "backlog" is used for highways and bridges that need rehabilitation or improvement now, as opposed to "accruing" needs that will occur in the next five years. Each year, approximately 600 miles of rough roads and about 90 deficient bridges accrue on this network. To reduce the backlog, more needs must be addressed than accrue each year.

The department's goal was to keep the backlog constant during FYs 1990-1994. Not only did the department meet this aim, but the stable backlog level of 1,150 miles was also maintained for an additional three years. During this period, the backlog of deficient bridges was reduced from 493 to 308. The backlog of needs will grow again over the next five years. By the end of FY 2002, there will be an estimated 1,400 miles of rough or narrow roads and 420 deficient bridges.

Improvement Needs

- ***Narrow Pavements.*** Given the importance of the marked route network to the economy, narrow roadways are a particularly serious problem. One of the problems with narrow roads is that they do not accommodate the larger trucks traveling on this network. Frequently, large trucks are forced to drive partially on the shoulder, creating additional damage. The 289 miles of roads with narrow pavement also present increased safety risks and are an impediment to the efficient flow of traffic. Of the 289 miles, 176 miles need to be both widened and resurfaced over the next five years

at an estimated cost of \$92 million. Another \$59 million will be needed to just widen the remaining 113 miles. The available funding provides only \$50 million to address 81 miles of those needs.

- ***Deteriorated Roads.*** In addition to narrow highways, about 1,076 miles of the deteriorated arterials need to be rehabilitated now. Another 2,920 miles are expected to deteriorate over the next five years. Improvement costs for both the existing backlog and accruing needs are estimated at \$1.754 billion. Only \$501 million is available.
- ***Bridge Needs.*** As was discussed in Chapter II, the state is required to inspect each bridge in Illinois for deterioration at least every two years. Based on information from the bridge inspections, the major economic arterial network has a backlog of 308 deficient bridges. Another 449 structures will become deficient over the next five years. To address bridge replacement and rehabilitation needs would cost an estimated \$820 million. This is based on a cost of \$970,000 for a typical structure.

Included in the number of deficient structures discussed above, there are 11 very high-cost major structures on the arterial network, which are estimated to cost an additional \$239 million. These bridges cost more than \$5 million each to rehabilitate or replace. One of the most costly is Illinois 47 over the Illinois River at Morris. The available funding for bridges provides only \$299 million.

The table on the following page summarizes the repair and improvement needs on the major economic arterial network and compares the estimated cost with the level that can be addressed with current revenues. These needs are listed in detail under "Pavement and Bridge Rehabilitation Needs on State System" in Section H of the Appendix.

Summary Table**Needs on Major Rural Arterials/Marked Routes in Millions of Dollars**

	Estimated Cost	Funding Available	Funding Shortfall
Widen & resurface 176 miles	92	50	42
Widen 113 miles	59	0	59
Resurface 3,996 miles	1,754	501	1,253
Replace/rehabilitate 746 bridges	820	217	603
Replace/rehab. 11 high-cost bridges	239	82	157
Total	2,964	850	2,114

CHAPTER IV

RURAL TRANSPORTATION

Highway access and mobility are some of the most basic elements shaping the economy and quality of life in the state's rural areas. Agricultural products must be transported to markets; retail stores must be supplied with merchandise shipped by truck; and people need to get to their jobs, job training sites, medical or social service centers, stores, or schools. These basic needs are provided by a network of secondary roads and rural public transportation systems linking rural Illinois to economic centers and markets.

A large portion of Illinois' economy is based on its resources in rural areas--agriculture and coal. In fact, Illinois leads the nation in the production of soybeans and corn and is the sixth largest producer of coal. Many of these products are initially transported on the rural road system before they are transferred to rail or water shipments. Of the nearly 50 million tons of coal mined in 1995, 7.8 million tons were moved by truck on these roads. The share of agricultural commodities transported on these highways is also significant. The movement of these commodities depends on an adequate system of land access, farm-to-market, and mine-to-market roads.

Personal isolation in rural Illinois is a growing concern, especially for the aging population and the poor. The option of driving themselves is in many cases not available. This raises the importance of public transportation for such basic functions as shopping, medical care, employment and education. For a viable rural Illinois, personal mobility needs must be met as well as highway access needs.

Rural Highway Network

The rural highway network consists of unmarked state routes, county highways and the township/road district system.

- ***Unmarked State Routes.*** The rural unmarked state system totals 1,839 miles. A major portion of this mileage consists of the older State Bond Issue (SBI) routes and frontage roads which have been replaced with new realigned highways. The remaining mileage consists of highways which were constructed by the counties as state-aid roads and are still the responsibility of the state. The unmarked state routes act as collectors for traffic from land access roads (to farms and other land) and feeder roads.

- **County Highway System.** The county highway system of 16,533 miles contains all highways which are the jurisdictional responsibility of the counties. Highways are included in the county system only if they have been so designated by the County Boards and approved by the department. The rural portion of this system totals 14,640 miles. Like the unmarked state system, county highways act as collector routes which channel traffic onto higher-order highways.
- **Township/Road District System.** The township and road district system contains 73,500 miles. It is composed of all public roads that are not part of the state, county or municipal street systems. The rural portion of this system totals 69,182 miles. Although some of these roads serve the function of a collector route, the bulk of the system serves as land access roads and feeder roads to the county and state systems. The township/road district system accommodates the initial movements of farm commodities, especially grain movements to elevators and terminal points, as well as the initial movement of coal by truck.

Needs on State System

The needs on the unmarked state highways and bridges are assessed under the same engineering evaluation process, including bridge inspection, described in the chapter on the interstate system. A detailed list of the needs, summarized below, is in Section H of the Appendix under "Pavement and Bridge Rehabilitation Needs on State System."

- **Narrow Pavements.** Of the 1,839 miles of unmarked rural state highways, 28 percent, or 507 miles, are classified as narrow. If warranted by traffic volumes, such roads are widened at the time they are due for other repairs, such as resurfacing. Over the next five years, 339 miles will need to be widened and resurfaced. The cost for this is an estimated \$178 million. Another 168 miles are narrow, but are currently in adequate condition. The cost to widen these roads is estimated at \$88 million. Only \$9 million is available.
- **Deteriorated Roads.** In addition to narrow pavements, there is a current backlog of 199 miles of deteriorated roads. Another 358 miles will be added to this backlog over the next five years. To resurface the 557 miles is estimated to cost \$245 million. The current multi-year program provides only \$5 million to resurface 31 miles.

With this level of investment, the backlog of deteriorated roads will grow to 526 miles by FY 2002, which is a 164 percent increase from the current backlog of 199 miles.

- **Bridge Needs.** The unmarked state system has a relatively large number of deficient bridges, due in large part to the advanced age of the system. They are either structurally deficient or functionally obsolete, or both. A structurally deficient bridge is unable to support full traffic loads and must be posted for weight restrictions. A functionally obsolete bridge is limited by outdated or poor design which is not compatible with the traffic it carries or the design of the highway it is part of, such as a road with wider pavement than the bridge. More than 10 percent of the bridges were built before 1930. Many of the structures have passed or are approaching the end of their useful lives. Most of them were designed and built at a time when less traffic, lighter trucks, slower speeds, and even one-lane roads were common. In some cases, roads have been improved to accommodate present traffic without improving the bridge because of the substantial additional cost.

The current backlog of deficient bridges on the unmarked state system is 201. Another 109 bridges will deteriorate over the next five years. Rehabilitating or replacing these 310 bridges is estimated to cost \$341 million, based on an average cost of \$970,000 per structure. The current funding level provides only \$39 million to address 50 bridges. This leaves a funding shortfall of \$302 million and a backlog of 260 deficient bridges by the end of FY 2002.

Summary Table

Needs on Rural Unmarked State Routes in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
Widen & resurface 339 miles	178	9	169
Widen 168 miles	88	0	88
Resurface 557 miles	245	5	240
Replace/rehabilitate 310 bridges	341	39	302
Total	852	53	799

Needs: County and Township Systems

The department has worked closely with the Illinois Association of County Engineers and the Illinois Municipal League in conducting a survey to determine road conditions and assess road and bridge preservation and capacity needs on the county, township, and municipal systems. County and township needs are discussed in this section. Table IV-1 on the following page shows the condition of roads and bridges on the county and township systems. The information from the municipalities is discussed in the next chapter on urban transportation.

- Thirty-three percent of the local roads are in fair, or barely adequate, condition. Travel may need to be slower than legal limits in some areas.
- Fourteen percent of the local roads are in unsatisfactory condition with a very rough surface. Travel must be substantially slower than the legal limit.
- Three percent of the local roads are in critical condition or closed. The surface is totally deteriorated, and travel on the road must be very slow to avoid vehicular damage or loss of control.

Analysis of the survey results showed that 6,956 county miles and 25,441 township miles will need improvements over the next five years. (For an explanation of how these mileage needs are derived, see the section entitled "Pavement Rehabilitation Needs on Local Systems" in Section I of the Appendix.)

Bridge conditions for structures longer than 20 feet, summarized as follows, were compiled from data collected from the National Bridge Inspection Program:

- Twenty-four percent of the local bridges are in fair condition; potential exists for rehabilitation or replacement.
- Thirteen percent are in unsatisfactory condition; major rehabilitation or replacement is necessary.
- Five percent are in critical condition; replacement is urgent, or the structure is closed.

Based on this data, 4,365 structures longer than 20 feet will need improvements within the next five years. Included in this amount are 21 high-cost bridges. In addition, a total of 335 structures of

less than 20 feet in length will need to be replaced in the next five years.

An analysis of traffic volumes on the county highway system showed 365 miles in rural and urban areas with capacity deficiencies. This was a system analysis of all county highways and did not exclude any locations where right of way or other restrictions would prohibit additional lanes.

The information from the survey and the bridge inspections provided the basis for determining the needs on the entire county and township system. As a result, approximately 32,400 miles of road will need improvement and 4,700 bridges will need rehabilitation or improvements over the next five years.

Table IV-1

Condition of County and Township Roads and Bridges

Condition	Total County Miles	Total County Bridges	Total Township Miles	Total Township Bridges
Excellent	1,779	1,078	3,160	2,500
Good	7,950	1,400	32,715	4,319
Fair	4,900	1,110	24,368	2,727
Unsatisfactory	1,669	400	10,664	1,637
Critical	235	20	2,593	800
Total	16,533	4,008	73,500	11,983

Public Transportation

Rural public transportation needs are addressed by the federal Section 5311 (formerly Section 18) program authorized by the ISTEA. This program provides funds that may be used for operating and capital grants to rural areas. Funding is apportioned to the state by a formula based on the population in non-urbanized areas (i.e., areas with a population under 50,000). The program is administered by the department which allocates grants to eligible units of local government. Section 5311 grants currently fund 26 rural and small urban transit systems outside the six-county Chicago area and the three Illinois counties that are part of the St. Louis Bi-State Development Agency. These 26 systems, shown on the map on the following page, serve 42 counties and 7 small cities.

The program has grown from 7 systems in 1980 to 26 today. This nearly four-fold increase in transit systems, combined with a 50 percent increase in the number of counties and small cities served, has resulted in greater demand for capital and operating assistance.

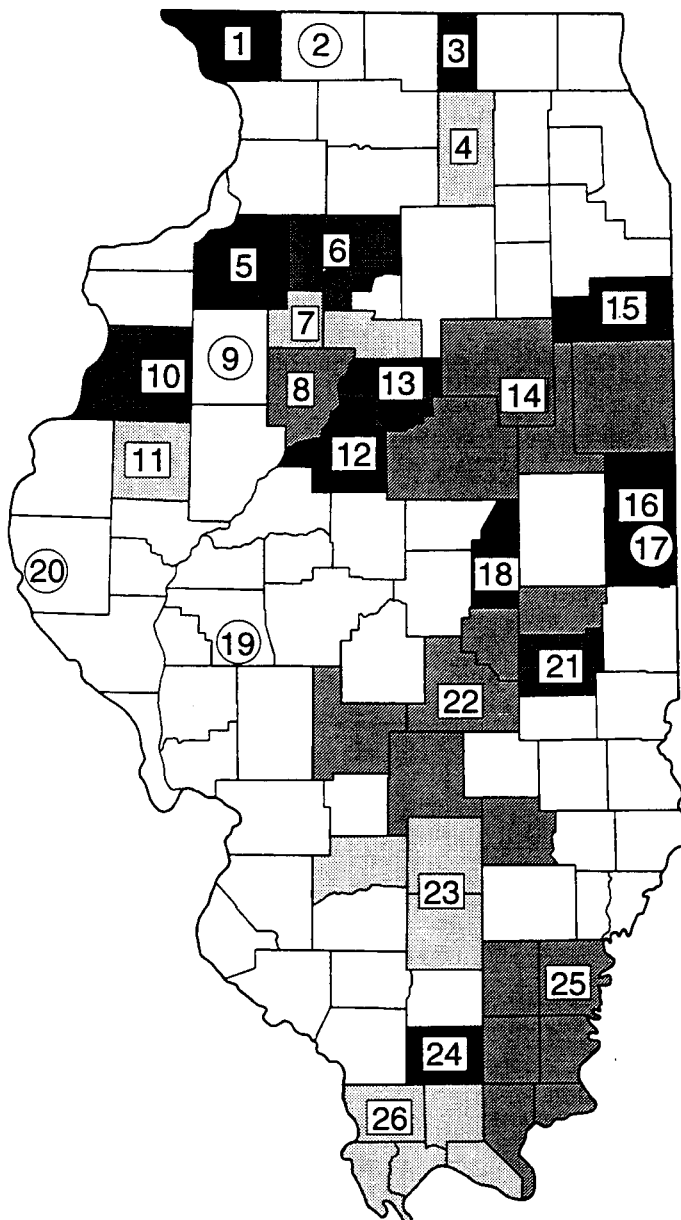
With the increased demand for rural public transportation and the escalating operating budgets of the Section 5311 systems, all available Section 5311 federal funds are utilized for operating expenses. This trend is expected to continue in future years. It will be extremely difficult, if not impossible, to fund any new significant capital projects or to start any new service with Section 5311 funds.

Over the next five years, federal revenues are expected to remain stable while operating costs are estimated to grow. Although Section 5311 funding for FYs 1998-2002 is projected to total \$18.6 million, all these funds are anticipated to be required for these operating expenses. In addition, capital needs for FYs 1998-2002 are estimated at \$26 million with only \$5.9 million estimated to be available from state and other federal funds, leaving a shortfall of more than \$20 million.

More than 85 percent of the capital needs are for replacement vehicles (for a table of all capital needs, see Section J of the Appendix). With this funding shortfall, the 26 existing systems will not be able to replace their aging vehicle fleets on a timely basis. Deferring the scheduled replacement of vehicles that have reached the end of their useful life will lead to more vehicle breakdowns and higher maintenance costs. Both drive up operating costs, increasing the pressure on already inadequate funding resources for operating assistance. This funding scenario will also preclude continued expansion of the Section 5311 program to areas currently unserved.

Summary Table			
<u>Rural Public Transportation Needs in Millions of Dollars</u>			
	Estimated Cost	Funding Available	Funding Shortfall
Capital Improvements	26	6	20

Illinois Public Transit Systems Rural and Small Urban Service Areas



1. JoDaviess County
2. City of Freeport
3. Boone County
4. City of DeKalb and DeKalb County
5. Henry County
6. Bureau County
7. Marshall and Stark Counties
8. Peoria County
9. City of Galesburg
10. Warren and Henderson Counties
11. City of Macomb and McDonough County
12. Tazewell County
13. Woodford County
14. McLean, Ford, Livingston and Iroquois Counties
15. Kankakee County
16. Vermilion County
17. City of Danville
18. Piatt County
19. City of Jacksonville
20. City of Quincy
21. Coles County
22. Clay, Douglas, Fayette, Montgomery, Moultrie and Shelby Counties
23. South Central Transit District (Clinton, Jefferson and Marion Counties)
24. Williamson County
25. RIDES Mass Transit District (Saline, Hardin, Gallatin, Pope, Hamilton and White Counties)
26. Massac, Johnson, Union, Alexander and Pulaski Counties

□ County Service Area
○ City Service Area

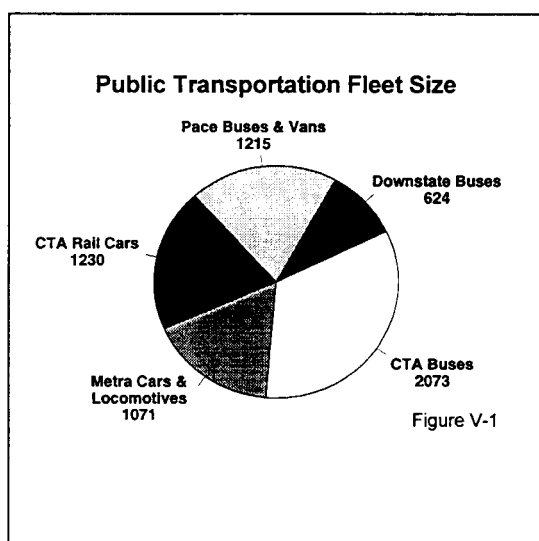
CHAPTER V

URBAN TRANSPORTATION

More than 9 million people reside in Illinois' urban areas according to the 1990 Census. This is the result of a steady growth in urban population since before the turn of the century, and it is a trend that is expected to continue. Economic activity is similarly distributed in the state. Large populations, along with the high level of economic activity, make unique demands on the transportation infrastructure in urban areas. The function of an urban transportation network is to efficiently move goods and people over densely developed areas and routes. This requires an appropriate mix of highways and public transportation.

Public Transportation

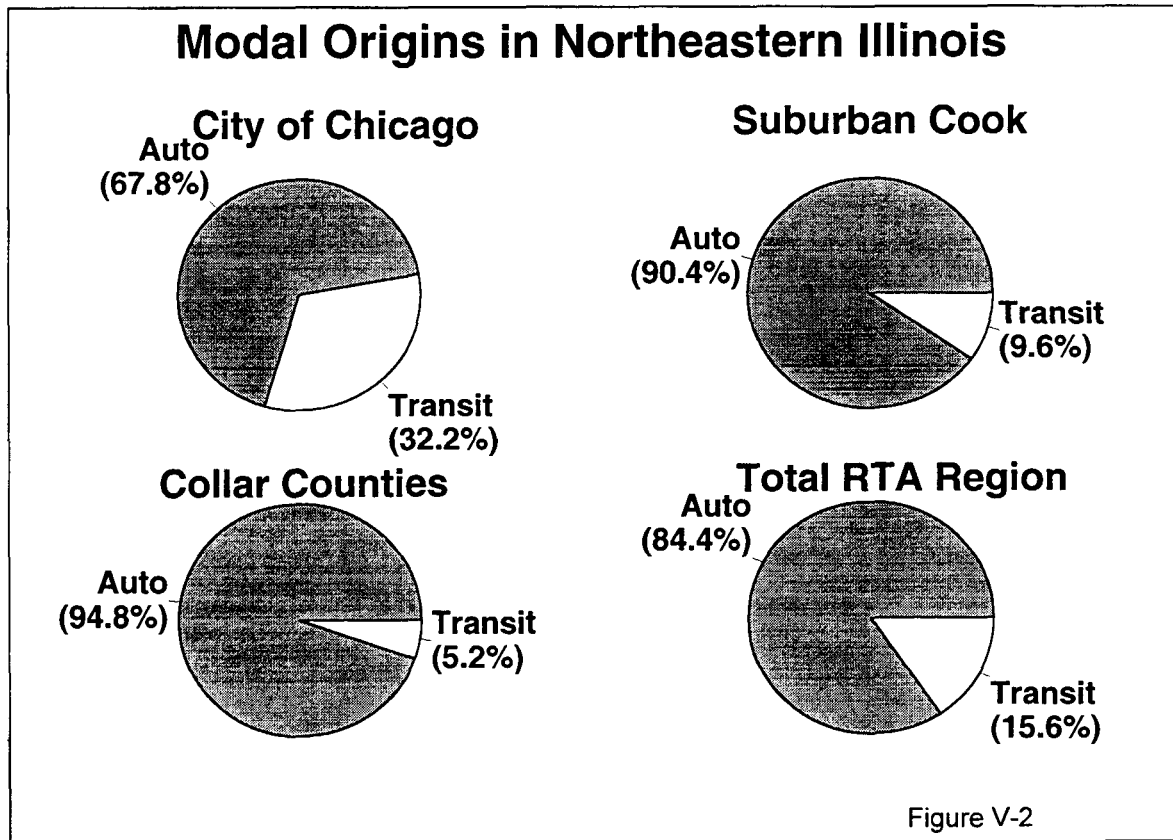
Public transportation is an especially critical element in northeastern Illinois' surface transportation network. The mass transit system there is the second largest in the nation and provides approximately 535 million trips a year. Of these trips, nearly two-thirds are made on buses traveling on the urban road network. Ninety-five percent of all transit trips in Illinois are in the Chicago area. Nearly 90 percent of the 6,200 transit vehicles in the state operate in northeastern Illinois (see Figure V-1). The Regional Transportation Authority (RTA) in northeastern Illinois has policy and fiscal oversight responsibilities for three service boards: the Chicago Transit Authority (CTA) for bus and rapid transit service in the city of Chicago and portions of Cook County, Metra for commuter rail service, and Pace for suburban bus service.



Northeastern Illinois' economic activities are closely linked to its public transportation services. More than 45 percent of all transit trips in Chicago are for the purpose of commuting to work. If the RTA system were to shut down, the area's economy would experience severe distress. The highway system and parking facilities could not accommodate an additional 2 million daily commuters in their individual cars, or even in car-pools. The bulk of the workforce which depends on transit would not be able to get to their jobs. Those who would resort to driving themselves would raise highway congestion, which in turn would slow down the delivery of goods and services. The economic fallout of such a scenario would not be confined to northeastern Illinois but would be felt statewide and beyond.

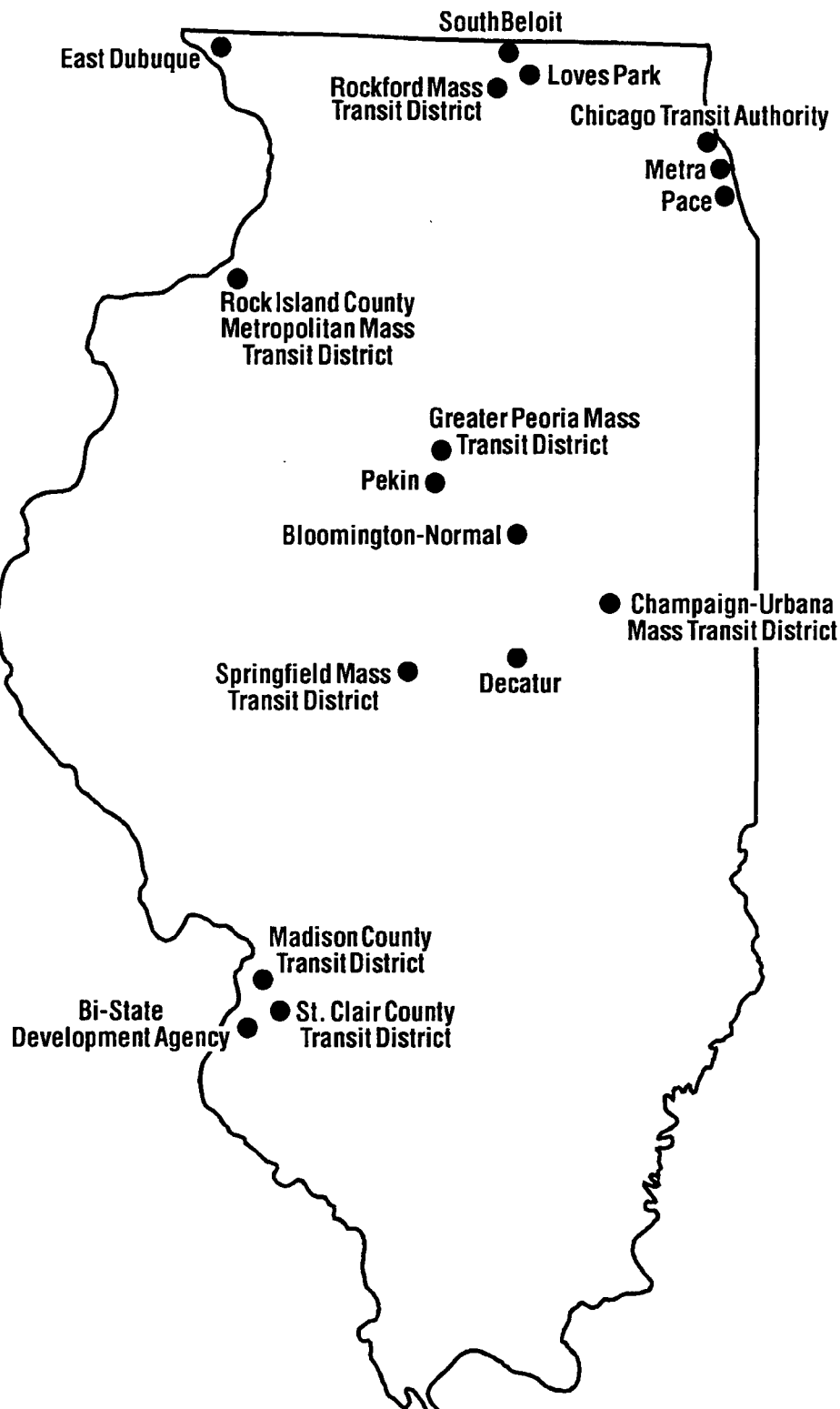
The reliance on transit services varies throughout the state. Within Chicago, 32 percent of all motorized surface transportation trips are made on

public transportation, declining to 10 percent in suburban Cook County and to 5 percent in the suburbs outside Cook County. The average for the RTA area is nearly 16 percent. This is summarized in Figure V-2.



Although not as heavily used as in northeastern Illinois, public transportation in downstate urban areas plays an important role in addressing surface transportation needs and is also a critical link for transit-dependent persons. The map on the following page shows the 11 downstate urbanized public transportation systems, the 3 transit authorities in the Metro-East St. Louis area, and the 3 service boards in northeastern Illinois.

Illinois Public Transit Systems in Urbanized Areas



Transit Capital Needs

All transit systems in Illinois have serious capital needs.

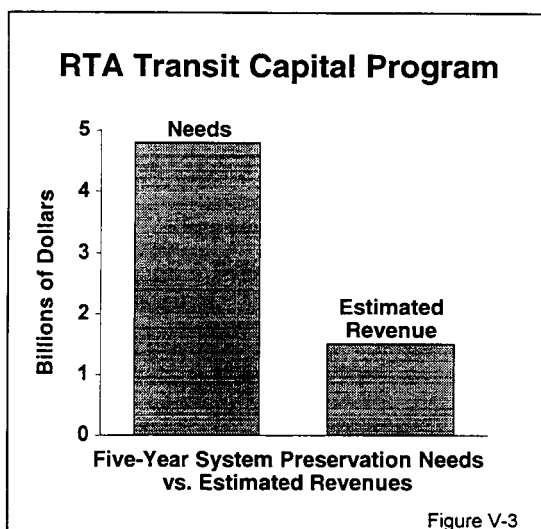
- **Northeastern Illinois.** The public transportation system in the Chicago area represents an \$18-billion capital investment (as measured by its replacement value). Much of this infrastructure is old and in need of modernization. Portions of the CTA rapid transit system operate on elevated structures built 100 years ago. There are many commuter rail bridges more than 70 years old. In spite of recent efforts to replace overage vehicles and facilities, transit service is hampered by aging equipment and outdated facilities that require rehabilitation and replacement. The deterioration of this aged system is accelerated by its heavy use.

In an attempt to define the size of the public transportation capital problem and potential solutions, the department, in cooperation with the RTA and the service boards, identified transit capital funding needs. As shown in Table V-1, more than \$4.8 billion over the next five years is needed to preserve the existing system.

Table V-1

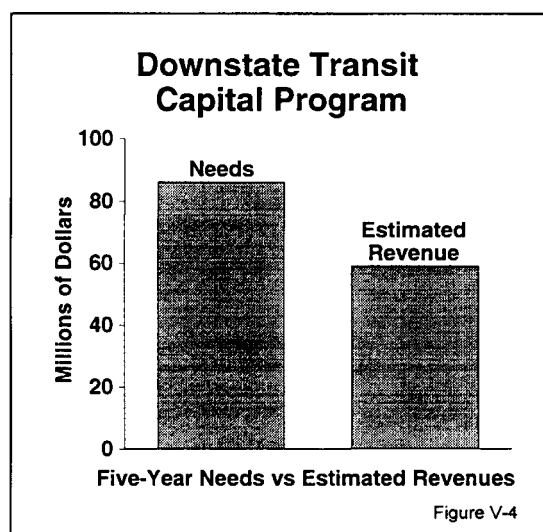
**Regional Transportation Authority
5-Year Capital Project Needs For System Preservation (Millions)**

Category	CTA	Metra	Pace	Total
Rolling Stock	732	682	126	1,540
Support Facilities and Equipment	220	135	64	419
Electrical/Signal/Communications	210	178	31	419
Stations and Passenger Facilities	642	243	21	906
Track and Structures	822	578	--	1,400
Safety and Security	118	--	--	118
Total	2,744	1,816	242	4,802



Estimated revenues for this period total only \$1.514 billion. This amount includes a continuation of the state Series B bond funding at the historic level of \$40 million per year but does not include any other state capital funding. In 1989, \$75 million of state bonds was authorized to decrease transportation congestion in the RTA area. This authorization is now depleted. At the same time, the RTA was authorized to issue \$500 million in bonds funded by the state for system preservation and expansion, as well as \$500 million in RTA-funded bonds. The RTA bonding authority is virtually depleted. As Figure V-3 illustrates, the needs are more than three times the projected revenues, leaving a funding shortfall of \$3.29 billion.

In addition to these system preservation needs, there is also a need for expanding the transit system to serve new markets and meet new demand. While the achievement of new major initiatives for service expansions is expected beyond the next five-year period, studies have been initiated on several transit expansion proposals. Examples of the long-range expansion needs under consideration for the region's proposed 2020 Transportation System Development Plan are in Section L of the Appendix. Also included in this list are expansion needs for existing service.



- Downstate Illinois.** The downstate urban transit systems are also faced with a shortage of capital funding. In conjunction with the local agencies, the department identified a capital need of \$86 million for FYs 1998-2002. (A table of the capital needs of each of the downstate systems is included in Section K of the Appendix). Projected funding for this five-year period is \$59 million. The projected amount of funds is based on maintenance of the current level of state bond funds, a decline in federal funds with budget-cutting efforts, and continuation of a small amount of state General Revenue Funds (GRF).

The difference between the capital needs and available funding is \$27 million, as illustrated in Figure V-4. The funding shortfall will seriously weaken transit service downstate and ultimately lead to higher operating costs. In spite of recent efforts to replace overage vehicles, more than \$45 million is needed for replacing buses, vans, and other transit vehicles that will exceed their useful life over the next five years. These rolling stock replacements are essential for

ensuring safe and dependable service. Maintenance problems and breakdowns occur more frequently as a vehicle reaches the end of its serviceable life. More repairs drive up operating costs, and more down-time of broken vehicles hampers transit agencies' ability to maintain dependable service and retain riders. Neglecting needed capital improvements is an expensive option.

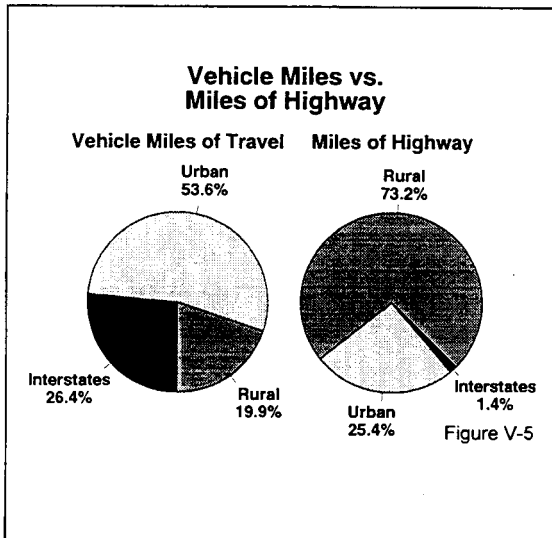
In order to meet new demand and serve additional markets, expansion of the transit system is also needed. This includes extending the MetroLink light rail transit system in St. Clair County. The planned extension will provide new service from the existing East St. Louis terminus to Belleville Area College (BAC), with a potential continuation to Mid-America Airport/Scott Air Force Base. The total extension from East St. Louis to the airport is estimated to cost \$427 million. A full funding agreement with the Federal Transit Administration in the amount of \$339 million for the BAC portion of the extension has been executed. However, to complete the new service to the airport, additional funding must be identified. (A table of expansion needs is in Section L of the Appendix.)

Summary Table

Transit Capital Needs in Millions of Dollars

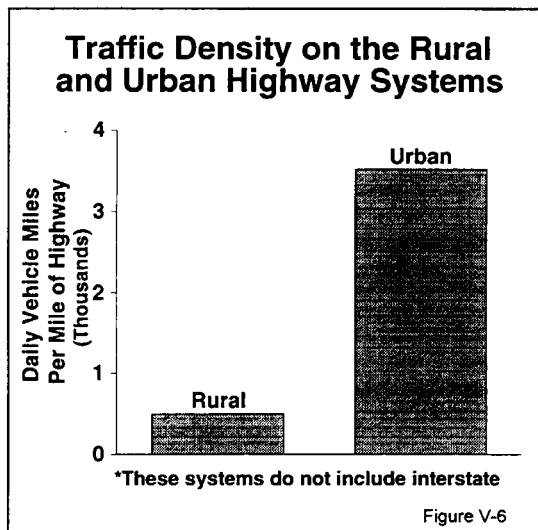
	Estimated Cost	Funding Available	Funding Shortfall
Northeastern Illinois system preservation	4,802	1,514	3,288
Expansion	1,071	409	662
Downstate	86	59	27
Total	5,959	1,982	3,977

Urban Highway Network



The urban highway network in Illinois consists of 4,100 miles of road under the state's jurisdiction (excluding interstate highways). On the local system, the breakdown in jurisdiction is as follows: 1,893 county miles, 4,317 township miles, and 24,938 municipal miles. Together, this network makes up 25 percent of the 138,539 miles of all highways in the state. Yet, urban highways carry almost 54 percent of all traffic in Illinois (see Figure V-5). This represents an extremely dense concentration of traffic which is more than seven times the density on the rural highway system.

One of the biggest challenges facing many urban areas in Illinois is highway congestion. If not addressed, it could have serious consequences. Congestion impedes economic activity, increases safety risks, exacerbates air and noise pollution, and threatens the overall quality of life for those who live and work in these areas.



As Figure V-6 illustrates, the density on urban highways (excluding interstates) is an average of 3,880 vehicle miles per mile daily versus 498 on rural highways. These high-volume urban highways require high-cost investments. Rehabilitation costs in urban areas can be at least twice as expensive as improvements on rural highways for a variety of reasons: more extensive utility adjustments, private and commercial entrances, curb and gutter, additional lanes, and more extensive detour and traffic control measures because of higher volumes of traffic.

Needs on State System

The urban highways under the state's jurisdiction also include portions of the interstate system. The needs on interstates going through urban areas are included in the discussion in Chapter II. The needs on the other urban highways are discussed below. Again, they are based on the same engineering evaluation process and bridge inspection program described in Chapter II.

- ***Deteriorated Roads.*** There is a current backlog of 755 miles of rough roads on the urban system. Another 1,256 miles will become rough over the next five years. To resurface the total 2,011 miles is estimated to cost \$1.65 billion. In addition, 134 miles are narrow and need to be rehabilitated now. Another 104 miles of narrow roads are expected to deteriorate over the next five years. The estimated cost to widen these miles is \$503 million. In addition, 147 miles are narrow but are currently in adequate condition. The cost to widen these routes is estimated at \$311 million. The current funding provides only \$370 million for 450 miles. With this level of investment, the backlog of deteriorated roads will grow to 1,800 miles by FY 2002.

- ***Bridge Needs.*** The urban system has a backlog of 365 deficient bridges. Another 209 bridges will become deficient within five years. Included in these deficient bridges are 18 structures requiring major, high-cost rehabilitation or replacement at an estimated cost of \$456 million. The current funding level provides only \$121 million for these high-cost bridges. One of the most costly is at Ogden Avenue over Cicero (Illinois 50) in Chicago.

To replace or rehabilitate the remaining 556 bridges is estimated to cost \$611 million. The current funding level provides only \$127 million to address these needs. This leaves a total funding shortfall of \$819 million and a backlog of 448 deficient bridges by FY 2002.

- ***Capacity Needs.*** Exclusive of the congested interstate highways in urban areas and the Strategic Regional Arterials described in the following section, there are 1,135 center-line miles of other urban roads that need capacity improvements over the next five years. Projects to expand capacity include adding lanes, adding turn lanes, and improving intersections and interchanges. Some of the urban capacity deficiencies are on streets where additional lanes would be very difficult, if not impossible,

to construct. However, this was a system analysis of all urban capacity deficiencies. The estimated cost for capacity improvements on the 1,135 center-line miles and at 75 intersections is \$6.6 billion. The current funding level can provide only \$308 million, leaving a difference between needs and funding of \$6.3 billion.

- **Intersection and Safety Improvements.** In addition to the high-cost capacity improvements mentioned above, there are many lower cost improvements necessary for safety and improved traffic flow. There is an estimated \$231 million needed for signals, lighting, and intersection improvements for approximately 810 locations. Current funding levels provide \$21 million to address these needs.

Summary Table

Needs on Urban State System in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
Widen/resurface 238 miles	503	85	418
Widen 147 miles	311	0	311
Resurface 2,011 miles	1,650	285	1,365
Replace/rehabilitate 556 bridges	611	127	484
Replace/rehab. 18 high-cost bridges	456	121	335
Improve capacity on 1,135 miles	6,497	234	6,263
Improve capacity at 75 intersections	84	74	10
Improve 810 low-cost intersections	231	21	210
Total	10,343	947	9,396

Needs on Strategic Regional Arterials (SRAs)

The Strategic Regional Arterial (SRA) system is a 1,340-mile network of major arterials in the six-county northeastern Illinois area designated in 1989 by local government officials in cooperation with the department working through the Chicago Area Transportation Study (CATS). The SRAs are major highways expected to carry a portion of intercommunity trips that the freeways will not be able to handle. Pre-planning studies have been or will be prepared for these routes. The studies identify feasible developmental strategies and potential environmental and community concerns, estimated right of way needs on a route by route basis, and the scope and cost of needed capital improvements. With this information, interim improvements to sections of the SRA network are developed within the framework of the ultimate recommendation. In addition, protective land acquisition efforts along SRA corridors can be implemented.

These studies indicate that capacity needs on the SRA system for northeastern Illinois through FY 2002 will require \$1.596 billion to improve 205 miles, 51 intersections, and 42 structures. In addition, \$14 million will be required for a high-cost bridge. Funding is provided for \$111 million in improvements.

Summary Table

Needs on Strategic Regional Arterials in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
Improve 205 miles, 51 intersections, and replace/rehab. 42 bridges	1,596	97	1,499
Replace/rehab. 1 high-cost bridge	14	14	0
Total	1,610	111	1,499

Needs on Local Municipal System

As noted in Chapter IV, municipalities were part of the survey of local officials on highway needs. Table V-2 on the following page shows the condition of roads and bridges on the municipality system. The total miles on the municipal system are 31,895, of which 24,938 are urban miles. The municipal needs are discussed in this section.

- Eighteen percent of the municipal streets are in fair, or barely adequate, condition. Travel may need to be slower than legal limits in some areas.
- Five percent of the municipal streets are in unsatisfactory condition with a very rough surface. Travel must be substantially slower than the legal limit.
- One percent of the municipal streets are in critical condition or closed. The surface is totally deteriorated, and travel on the road must be very slow to avoid vehicular damage or loss of control.

The following statistics on bridge conditions for structures greater than 20 feet were compiled from data collected from the National Bridge Inspection Program:

- Thirty-four percent of the municipal bridges are in fair condition; potential exists for major maintenance or minor rehabilitation.
- Nineteen percent are in unsatisfactory and critical condition; major rehabilitation or replacement is necessary.

Based on the survey and the bridge data, 6,956 miles of road will need improvement and 300 bridges will need rehabilitation or replacement over the next five years. In addition, 52 high-cost bridges will need to be replaced or rehabilitated. (For an explanation of how these mileage needs are derived, see Section I, entitled "Pavement Rehabilitation Needs on Local Systems," in the Appendix.) Included in these needs are 500 miles of road and 50 bridges that require major rehabilitation in the city of Chicago.

A system capacity analysis of traffic volumes on the municipal street system showed 458 miles with capacity deficiencies. The analysis did not exclude any locations where right of way or other restrictions would prohibit additional lanes.

Municipalities use approximately \$227 million in motor fuel and sales tax revenue allocations and \$75 million in federal and matching funds annually for highway construction. This leaves a massive funding shortfall that cannot be made up from other local revenues, given the decline in the local revenue base, as discussed in Chapter I.

Table V-2

Condition of Municipality Roads and Bridges

Condition	Total Municipal Miles	Total Municipal Bridges
Excellent	6,383	290
Good	18,031	399
Fair	5,703	497
Unsatisfactory	1,512	260
Critical	266	15
Total	31,895	1,461

Another problem for many municipalities is their rapid growth rate. Many Illinois municipalities have experienced population increases in excess of 5 percent over the last five years, with several showing increases of 20 percent or more. This rapid population growth has been accompanied by a similar growth in traffic. In some instances, traffic has increased well over 35 percent above the statewide average.

The increase in traffic has caused municipalities considerable problems with their traffic signal networks. Most traffic signal systems are not geared to moving the large number of vehicles traveling on municipal roads. Major renovations of these signal systems and/or extensive retiming procedures are needed to accommodate the increase in traffic. Approximately 6,765 traffic signals in Illinois have need for significant improvements. Approximately 4,050 signals (60 percent) of the signal improvement needs are in the Chicago area.

Congestion

Congestion has become a serious problem in many urban areas of the state. Ironically, while congestion is the result of past economic growth, it adds to the cost of continuing economic progress and expansion. Other problems come with congestion--air and noise pollution, safety hazards, lost productivity due to chronic traffic bottlenecks, and increased costs for transporting goods.

The most critical congestion problems in Illinois are in the Chicago metropolitan area which has experienced a steady outward expansion along with a dramatic growth in population. In the suburbs, economic centers have developed in widely distributed clusters. This has increased the complexity of commuting patterns and placed tremendous pressures on the surface transportation network. The problem will get worse as traffic growth is projected to continue.

Congestion Mitigation

Congestion problems are complex and are expensive to address. They require both highway and transit capital investments and a long-term approach, well beyond the five-year time frame used for the state highway and transit programs. To effectively address this tremendous problem requires the cooperation of the state and transit agencies along with county and municipal governments. To this end, the transportation community in northeast Illinois initiated congestion mitigation efforts in 1989 to address the problems associated with congestion. These mitigation efforts utilized all of the transportation planning expertise available to the region to explore a variety of congestion reduction strategies. These ranged from the construction of new facilities to traffic demand management. The focal point for congestion mitigation is the Transportation Systems Development Plan, developed by the Chicago Area Transportation Study (CATS).

The problems of congestion cannot be eliminated in major metropolitan areas; they can only be managed through a broad spectrum of strategies. The strategies already in place in northeast Illinois are still "state of the art" approaches to congestion mitigation. At this time the region is engaged in the development of the CATS 2020 Regional Transportation Plan, "Destination 2020." While the transportation planning environment in the region and throughout the country has significantly changed since the inception of the 1989 congestion

mitigation effort, many of the strategies initiated continue to play an important role. These strategies include:

- ***Major Transit/Highway Facilities.*** Destination 2020 will identify new freeways or freeway extensions, major toll road expansions, new transit rail lines, and transit service improvements. Destination 2020 is also investigating the need to conduct preliminary engineering and right of way preservation for highway and transit “corridors of the future” that will be needed after 2020.
- ***Strategic Regional Arterial Network.*** The Strategic Regional Arterial (SRA) highway network, initially identified in the 2010 Plan, was created to absorb a large share of the long-distance regional traffic that the freeways could not handle. Ultimately, the SRA network could become the key mechanism for relieving the burgeoning suburban/urban congestion problems.
- ***Strategic Transit Improvements.*** As originally envisioned, strategic transit improvements consisted of highway improvements designed to facilitate transit service and use. A variety of approaches and projects have been explored including:
 - Enhancing the right of way along roads to accommodate bus-pullout, pedestrian, and bicycle facilities
 - Improving bus transfer and waiting facilities
 - Improving access and parking at rail stations
 - Providing preferential treatment of high-occupancy vehicles, such as buses, to bypass traffic bottlenecks and shorten travel times

In conjunction with the Destination 2020 process, the RTA has proposed the development of a Strategic Regional Transit (SRT) network. This is a transit counterpart to the SRA network and is intended to identify the “important” links of the transit network and to determine how that network can best serve regional transportation needs.

- ***Freeway Traffic Management.*** Although Illinois has one of the most sophisticated freeway traffic surveillance systems in the nation, efforts continue to explore and implement

enhancements and improvements to the system, including:

- Inclusion of toll roads in the freeway surveillance system
- Expanded use of changeable message signs
- Expansion and improvement of the Emergency Traffic Patrol program administered by the department
- Automated toll collection systems
- **Arterial Traffic Management.** Innovative traffic management tools are being developed and implemented to improve operations on arterials. These tools include:
 - Modernization and interconnection of traffic signal systems
 - Development of a region-wide incident detection system for the arterial network
 - Improvement of highway access policies

CHAPTER VI

SAFETY

The department's mission is to provide for the rapid, safe, efficient, comfortable, and economical movement of people and goods throughout the state. Keeping Illinois' transportation system safe continues to be a high priority to the department. Safety considerations are key elements in road and bridge design, particularly when rehabilitation, repair and upgrade improvements are made.

To ensure this objective is met, the department maintains a state records system in which information is compiled from traffic accident reports filed by police agencies throughout the state. Recent accident data indicate the following information:

- Over 400,000 traffic accidents occur in Illinois each year. Of these, 68 percent involve multiple vehicles, while 32 percent involve single vehicles.
- More than half of the accidents, or 61 percent, occur on local roads and streets. The remaining 39 percent occur on the state highway system.
- A significant portion, 87 percent, of accidents occur in urban areas. Rural areas experience 13 percent of the state's accident total.

Safety Improvement Program

Traffic accidents are caused by a variety of reasons--from error in driver judgment, to weather conditions, to the characteristics of the roadway geometrics. Of these, the number of accidents and the severity of accidents that can be attributed to roadway geometrics may be reduced by traffic engineering improvements. Traffic engineering improvements include roadway widening, resurfacing, guardrails, horizontal and vertical alignment corrections, and removal of roadside obstacles.

Each year, the department identifies over 2,000 high-accident locations. Of these, approximately half are at spot locations and half are within roadway sections. These high-accident locations are analyzed to determine if a safety improvement can address the accident experienced and, if so, what type of improvement should be undertaken.

Approximately 150 traffic engineering improvements are made each year on the state highway system. Of this total, generally two-thirds are spot location improvements and one-third are on roadway segments. The most common traffic

engineering improvements used to reduce the number and severity of accidents are:

- skid resistant overlays to improve traction in wet weather,
- new or upgraded traffic signals, and
- channelization and/or turn-lanes to improve traffic flow.

The inherent nature of accidents results in different high-accident locations being identified each year. Nearly half of the high-accident locations identified each year are new. Based on this experience, the department estimates that 3,230 high-accident locations need to be addressed over the next five years at an estimated cost of \$875 million. Current five-year funding for the safety improvement program is estimated at \$71 million, which will allow the department to address 201 high-accident spot locations. Traffic safety improvement needs at high-accident section locations are addressed in the roadway improvement needs contained earlier in this report.

An effort to identify high-accident locations on the local system from a statewide perspective has not been accomplished due to a lack of a location reference system. A local safety program is developed annually that includes improvement at a limited number of locations. Based on candidate submittals for this program, an estimated 375 locations will need to be improved in the next five years at an estimated cost of \$75 million.

Rail-Highway Crossings

There are 9,244 at-grade crossings in Illinois. Of these, 968 crossings intersect state highways and 8,276 intersect local roads and streets. These crossings have differing types of protection to alert motorists as they approach the rail-highway intersection. These protections range from crossbuck signs to train-activated gates.

Table VI-1 on the following page shows the current protection at rail-highway crossings on state and local systems.

Table VI-1**Types of Rail-Highway Protection**

	State	Local	Total
Crossbucks	65	4,137	4,202
Bells	2	52	54
Stop signs	0	4	4
Wig wags	0	24	24
Flashing lights	455	2,165	2,620
Gates	437	1,829	2,266
Miscellaneous	9	65	74
Total	968	8,276	9,244

The ultimate form of protection for the motorist is to construct grade separations at rail-highway crossings but achieving the necessary clearances and grade required for these structures is very costly. Grade separation structures may also prove prohibitive due to acquisition of developed property that would be needed for construction.

A review of traffic on both the road and track at each intersection on the state and local systems has revealed a need to upgrade protection at 1,850 locations over the next five years at an estimated cost of \$694 million.

Summary Table**Needs for Rail-Highway Protection in Millions of Dollars**

	Estimated Cost	Funding Available	Funding Shortfall
State System--upgrade 189 intersections	291	26	265
Local System--upgrade 1,661 intersections	403	142	261
Total	694	168	526

CHAPTER VII

HIGHWAYS FOR ECONOMIC DEVELOPMENT AND EXPANSION

Illinois has historically commanded a prominent economic role nationally and internationally. Having a well-developed transportation infrastructure has been key to attaining this status. Today, Illinois' economic potential is by no means exhausted. The extent to which it can be further advanced depends in part on the development of major new highway arterials.

Economic Corridors

There are areas throughout the state that could benefit from new major highways which would open industrial access to rural areas and the national and international markets. New major arterials are needed to reduce congestion and to better accommodate heavy truck traffic so that existing businesses can expand. Table VII-1 identifies only the highest visibility projects to develop major arterials throughout the state for economic development and expansion. The cost to complete these projects totals more than \$2.9 billion. In addition, there is another \$46 million needed to complete major construction projects that support economic development.

Under the current funding levels, only \$88 million, or approximately 1.8 percent of the five-year program, is funded for engineering and construction of all the major routes. The estimated total cost for all these projects is nearly \$3 billion, leaving \$2.9 billion in work unfunded. Any future additions of these projects that are designed to foster new economic development or expansion must be paid for out of the regular highway program and at the expense of rehabilitation needs of the existing pavements and bridges.

Several of the priority routes have preliminary engineering under way, with other routes in various stages of construction. None of the routes are completely funded at the current level. Construction of several of these four-lane highways, built to freeway or expressway design standards, would give underutilized areas of Illinois a needed boost toward more robust economic development and improve safety and access.

- ***Alton Bypass from Interstate 270 to Illinois 267 north of Alton.*** Construction of the 22-mile Alton Bypass is under way.

- ***Elgin-O'Hare Expressway from US 20 (1st crossing east of Barrington Road) to US 20 (2nd crossing near East Bartlett Road).*** This two-mile segment of the Elgin-O'Hare Expressway is directly west of the segment opened to traffic in 1993.
- ***Peoria to Chicago (Heart of Illinois) Highway.*** A feasibility study to evaluate corridors between Peoria and Chicago has been completed. Three corridors have been identified as feasible; however, a final corridor has not been selected.

An engineering study is under way to develop a corridor preservation map for a ring-road on the south and east side of the Peoria area and to begin work on a draft environmental statement. The ring-road will provide access from the Peoria area to the Peoria to Chicago highway.

- ***US 20 from northwest of Galena to west of Freeport.*** Phase I engineering to prepare a location and design report and an environmental impact statement (EIS) for improving the existing 50 miles to four lanes is under way. Completion of Phase I is anticipated in the spring of 1998.
- ***US 34 from east of Carman Road to US 67 at Monmouth.*** Phase I engineering for a four-lane highway was started March 21, 1996.
- ***US 51 from Macon to Centralia.*** Phase II engineering from Macon to Moweaqua is anticipated to be completed December 1996. Engineering from Moweaqua to Centralia has not been started.
- ***US 67 from Jacksonville to Alton.*** An EIS, design study, and archaeological survey are under way.
- ***US 67 from Macomb to Jacksonville.*** Phase I engineering for location studies and preparation of an EIS for a four-lane highway between Macomb and Jacksonville are in progress.
- ***US 67 Bypass from north of Roseville to south of Roseville.*** Phase I engineering for location studies for the construction of a new 4.5-mile, four-lane westerly bypass around Roseville is presently being updated to meet federal eligibility. The construction of this project is contingent upon the receipt of special federal funding over and above regular formula funds.

- **US 136/Illinois 336 extension--Quincy to Macomb Corridor.** Construction of a new four-lane facility from US 24 to Illinois 61 near Mendon is near completion. Grading and structures for four lanes from Illinois 61 to three miles south of Illinois 94 (West Point Road) and paving of two lanes from Illinois 61 at Mendon to Illinois 61 at Loraine are under way. Contract plans for Illinois 336 from West Point Road to three miles south of Carthage are also under way. Engineering to complete contract plans from south of Carthage to Macomb will be accomplished with the current funding level.
- **Illinois 29 from Rochester to Taylorville.** Preliminary engineering for location studies, preparation of an EIS, and archaeological surveys for a four-lane highway are included in the FY 1997 program.

Table VII-1

HIGH VISIBILITY PROJECTS IN THOUSANDS OF DOLLARS

	Funded	Cost to Complete
Alton Bypass	1,270	176,274
Elgin-O'Hare Expressway	1,853	85,264
Peoria to Chicago Expressway	5,000	445,264
US 20 - Galena to Freeport (4-Lanes)	0	685,811
US 34 - Carman Rd. to Monmouth (4-Lanes)	1,908	160,478
US 51 - Macon to Centralia (4-Lanes)	0	344,106
US 67 - Jacksonville to Alton (4-Lanes)	0	289,421
US 67 - Macomb to Jacksonville (4-Lanes)	13,189	441,995
US 67 - Roseville Bypass	5,000	11,700
US 136/Illinois 336 Extension	13,864	213,823
IL 29 - Rochester to Taylorville	<u>0</u>	<u>69,000</u>
Total	42,084	2,923,136

Access Roads for Economic Development and Tourism

The Economic Development Program was established in FY 1990. The purpose of the Economic Development Program is to provide state assistance to local units of government, in addition to projects on the state system, for highway improvements that are needed to provide access to new or expanding industrial, distribution, or tourism developments. Originally, the department provided \$25 million for a five-year program that was to end in FY 1994. Since the need was greater than expected, the program was continued through FY 1997. It is anticipated that this program will continue from FY 1998 through FY 2002. The current needs for this program are \$136 million.

The Park Roads Program was initiated in 1984 to assist local agencies in maintaining the local roads which access state parks. Because of the additional traffic seeking access to these sites, the department realized some local agencies were hard pressed to maintain their roads. Later, the improvement of internal park roads and the roads at historic sites were added to the Park Roads Program. Projects for this program are selected by the Department of Natural Resources and the Illinois Historic Preservation Agency. Current needs for these projects are estimated at \$55 million.

Summary Table

Economic Development and Expansion Needs in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
High visibility projects	2,923	42	2,881
Other major highway projects	46	46	0
Access roads for economic development and tourism	191	51	140
Total	3,160	139	3,021

CHAPTER VIII

RAIL FREIGHT TRANSPORTATION

Unlike highways, waterways, and airways, the rail system in Illinois is primarily privately owned by a number of corporate entities. With a combined route mileage of approximately 7,900 miles (shortlines, regionals and major interstate railroads), Illinois ranks second only to Texas. By virtue of its Midwestern location, Illinois is served by carrier systems that extend to the East, West and Gulf coasts as well as to Canada and Mexico. (The network of rail lines in the state is shown on the map on the following page.) Illinois is a significant gateway or interchange point among railroads serving either eastern or western states, with Chicago and East St. Louis being principal rail gateways. The seven largest railroads of the 43 operating railroads in existence in Illinois operate approximately 92 percent of the state's total route miles. (For a list of Illinois' railroads, see Section M of the Appendix.)

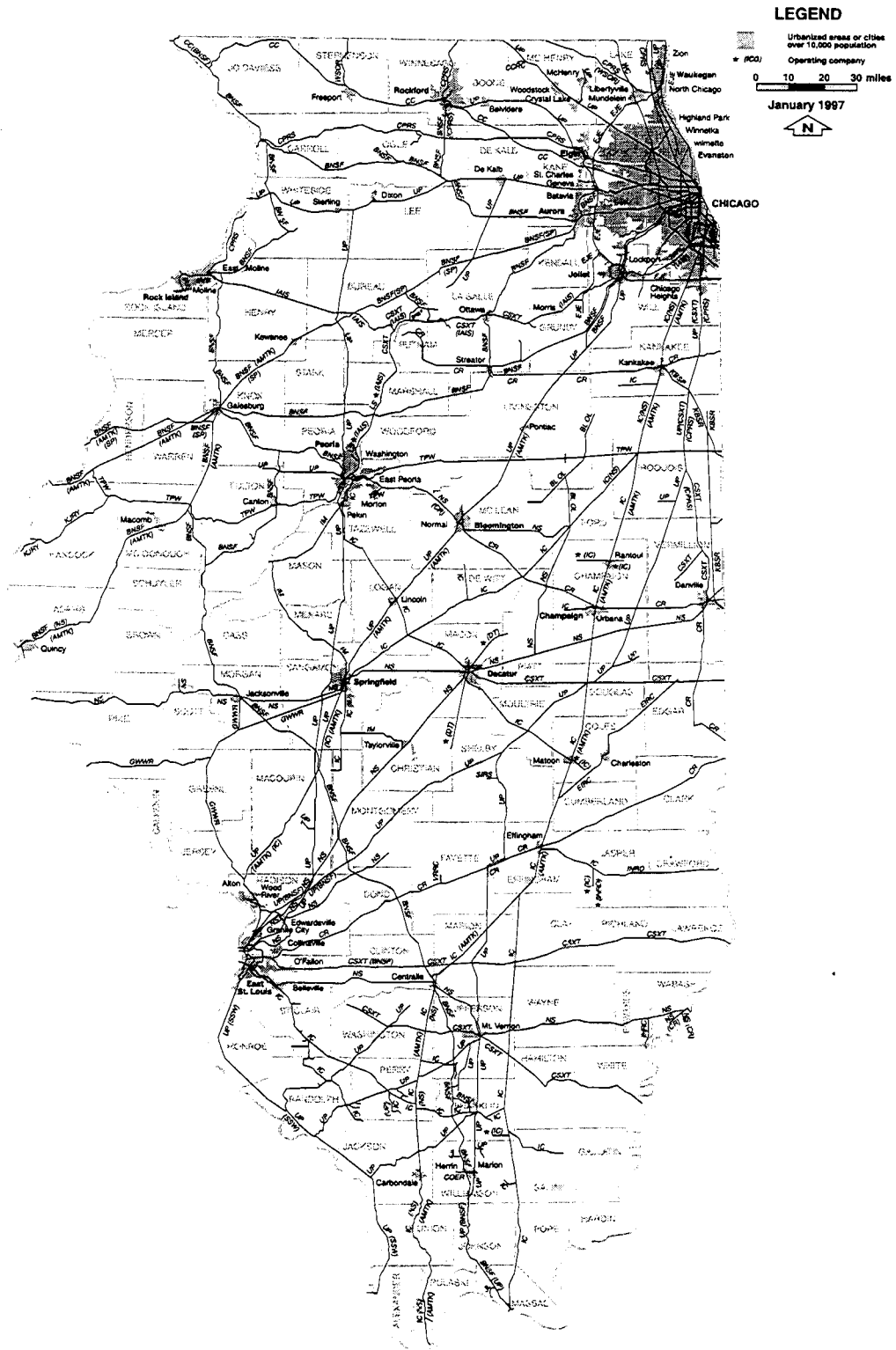
Of the railroad companies operating within Illinois, Class I railroads account for seven, regional railroads for six, local for ten and switching and terminal for 20. A Class I railroad is one which earns greater than \$250 million in annual operating revenue. A regional railroad, a non-Class I, generally operates at least 350 miles of road; and a local railroad, also a non-Class I, generally operates under 350 miles. Switching or terminal railroads are primarily non-line-haul carriers and perform switching and/or terminal services for other railroads. Railroad employment in Illinois is 6.8 percent (13,295 jobs) of the total United States railroad employment.

Background

Illinois' rail system reflects the broad, nationwide changes that have affected the rail industry as a whole. Over the years, the railroad industry has made dramatic strides in its attempt to generate an adequate return on investment--not without a cost to the public, however. Many miles of track have been abandoned and mergers--oftentimes mega-mergers--have become commonplace. Railroad employees have been displaced, and many businesses have been forced to switch from rail to less economical transportation alternatives. On the upside, however, many other Illinois businesses have been able to capitalize on the benefits related to system consolidations, such as transportation cost savings through more efficient single-line routings, better equipment supply through equipment pooling, and enhanced business opportunities due to greater marketing and operating coordination.

ILLINOIS RAILROADS

ILLINOIS DEPARTMENT OF TRANSPORTATION



During the past few years, Illinois has witnessed the completion of two large railroad mergers and is in the process of watching a third unfold. The state presently is monitoring the merger of the Union Pacific and Southern Pacific (which was approved by the federal Surface Transportation Board on July 3, 1996). This latter transaction has created a system over 34,000 miles in length. Within the same time frame, the Illinois Central has acquired the Chicago, Central and Pacific railroad as well.

As railroads strive to achieve improved rates of return, the rail industry will continue to rid itself of unprofitable lines and to consolidate through mergers. Although deregulation has prevented some abandonments through encouraging the formation of shortlines to take over service, it has also made abandonments easier to obtain.

Since 1976, more than 3,000 miles of rail lines have been abandoned in Illinois. The department estimates that this has affected more than 1,000 shippers who were confronted with the difficult decision of going out of business or changing to other modes, often more expensive, in order to continue operating.

The loss of direct rail service has a profound effect on business and communities. In cases where a business is in a highly competitive market environment or has a marginal operation, the loss of rail service may force the firm to either close or greatly reduce its operations due to the increased costs of trucking. For some businesses, particularly grain elevators, the loss of rail service may result in the loss of a market due to greatly increased transportation costs. It has also been found that an elevator shifting to truck from rail will pay farmers 5-7 cents per bushel less for their grain to account for their own higher transportation costs. That 5 cents per bushel is often greater than the farmers' profit margin. In either case, the local community often must bear the resulting increases in unemployment and reductions in disposable income. In addition, the loss of rail service shifts freight movements to trucks which increases wear and tear and the rate of deterioration of highways.

State Role

The state's role is to assist industries and businesses faced with the loss of rail service due to abandonments and to help communities in their efforts to attract new economic development by upgrading rail service through the Rail Freight Program. The program was originally created to provide grants to shippers and communities. To stretch limited funding resources, the department formulated the policy of loaning, rather than granting, funds whenever possible. The General Assembly subsequently enacted legislation establishing two revolving loan funds: the Rail Freight Loan Repayment Fund for federal loan funds and the State Loan Repayment Fund for state loan funds. Loan repayments are recycled for new projects.

The federal loan funds are restricted to projects that preserve service on light-density lines which make up approximately one-fifth of Illinois' 7,900 route-miles of track (excluding yard tracks and sidings). Light-density lines are those that carry under 5 million gross tons of freight traffic per mile annually. They are also referred to as "branch lines" and generally serve agricultural businesses in rural areas or industrial firms in urbanized areas. The state loan funds have a broader application, such as projects to help communities improve rail access to industrial parks or to assist railroads in modernizing operations on their lighter density lines.

Through the Rail Freight Program, the department channels government funds to projects that achieve statewide economic and rail freight service goals. The program allows the state to draw together different parties with various needs to solve a shared transportation problem. In this way, state funds will leverage private investment for greater economic benefits to shippers, railroads and communities in Illinois. The program is an effective tool in protecting access for shippers and businesses to rail transportation. In the process the investments help retain and create jobs through the construction of new and improved rail freight service facilities.

Rail Freight Program Accomplishments

Since 1980, the Rail Freight Improvement Program has provided more than \$85.6 million for 109 rail improvement projects. The investment was responsible for the retention of more than 15,560 jobs in 475 industries. The program also has provided technical and financial support to communities throughout the state for attracting new industries which are rail-dependent.

Currently, the Rail Freight Improvement Program is completing \$3.8 million of rehabilitation on three

essential rail routes. Projects include improvements to overhead clearances on a major Chicago Terminal District line, which will allow through-route double stack operations; a track upgrade within the Chicago-St. Louis corridor, which will allow for substantial speed increases for freight (as well as intercity passenger trains); and a downstate bridge replacement project on an important utility coal handling route, which will allow for safer and more efficient commodity handling. (For a list of rail freight projects under construction, see Section N of the Appendix.)

Future Rail Freight Funding Needs

Programming rail freight projects is a dynamic process that requires a flexible approach to changing situations. Most projects are complex, requiring shipper, local, state and federal government, and railroad cooperation and financial involvement before agreements can be reached and implemented.

The number and magnitude of highly desirable rail freight projects being requested continues to increase. Adding to demand is the fact that the trend by the rail industry to abandon unprofitable lines is continuing, and new regional and local railroads will be formed as a result of restructuring.

Over the next five years, the Rail Freight Improvement Program needs will total \$55 million, including a backlog of current needs at a cost of \$30 million and another \$25 million for needs that will accrue. A total of \$30 million in funding is projected for the same period. This includes \$15 million in General Revenue Funds and \$15 million in loan repayments. (See Section N of the Appendix for a listing of rail freight needs.)

Summary Table

Rail Freight Improvement Needs in Millions of Dollars

	Estimated Cost	Funding Available	Funding Shortfall
Capital Improvements	55	30	25

CHAPTER IX

INTERCITY RAIL PASSENGER TRANSPORTATION

Chicago is a major Amtrak hub, with more than 20 trains radiating daily from the city to such destinations as New Orleans, Washington, New York, Houston/San Antonio, and the West Coast. Nine of these are intercity trains sponsored by the state with Amtrak. Because of this partnership, Illinois has a direct interest in Amtrak's financial condition and capital program since it affects the state-sponsored intercity rail passenger program.

By 1994 Amtrak's financial and operating condition had declined to the point at which its long-term survival was seriously threatened. At the same time, federal budget considerations had been making it increasingly difficult for Congress to provide its historic level of support. In 1995 Amtrak developed a plan to increase revenues and cut expenses, with the goal of eliminating its need for a federal operating subsidy by the year 2002. This plan includes increased state and local contributions for operating the state-supported trains, along with increased federal and state funding for capital improvements to provide competitive service that will attract more riders and thereby increase farebox revenues.

State-Supported Trains

The Rail Passenger Service Act of 1970, which established Amtrak, allowed states to arrange for supplementary or 403(b) intercity rail passenger service if they were willing to pay a portion of the costs. Illinois was among the earliest states to implement a supplemental rail passenger program in partnership with Amtrak. The Illinois Zephyr was the first state-supported train; it started service in 1971, the same year that Amtrak began operating its national system trains. The Statehouse and the Illini followed in 1973.

Currently Illinois provides assistance for the operation of three daily round-trip Amtrak trains providing service between Chicago and downstate communities. These trains operate in three corridors: the "Statehouse" between Chicago and St. Louis; the "Illini" between Chicago and Champaign and on to Carbondale; and the "Illinois Zephyr" between Chicago and Quincy. Illinois contributed a portion of the state share for six round trips between Chicago and Milwaukee.

The remainder is paid by Wisconsin. This supplemental service provides long-distance commuting service to and from Chicago, with more than 40 percent of the riders on these trains traveling on business. It also serves students and provides accessible intercity transportation service for individuals who are disabled (see the map on the following page).

Until recently, the state's funding participation has historically been about \$3 million a year. The cost to the state went up dramatically in FY 1996. By negotiating, implementing a fare increase, and cutting service on the Chicago-St. Louis route, the department narrowed the funding gap. For FY 1997, the General Assembly appropriated \$6.5 million to continue the state-supported service. A new multi-year agreement was signed with Amtrak to continue rail passenger service between downstate communities and Chicago through June 2000. The agreement requires the state to provide \$7 million in FY 1998, increasing to \$7.95 million by FY 2000. Under performance standards in the new agreement, Amtrak will pay a \$2,700 penalty each time a train is more than a half-hour late departing from its point of origin.

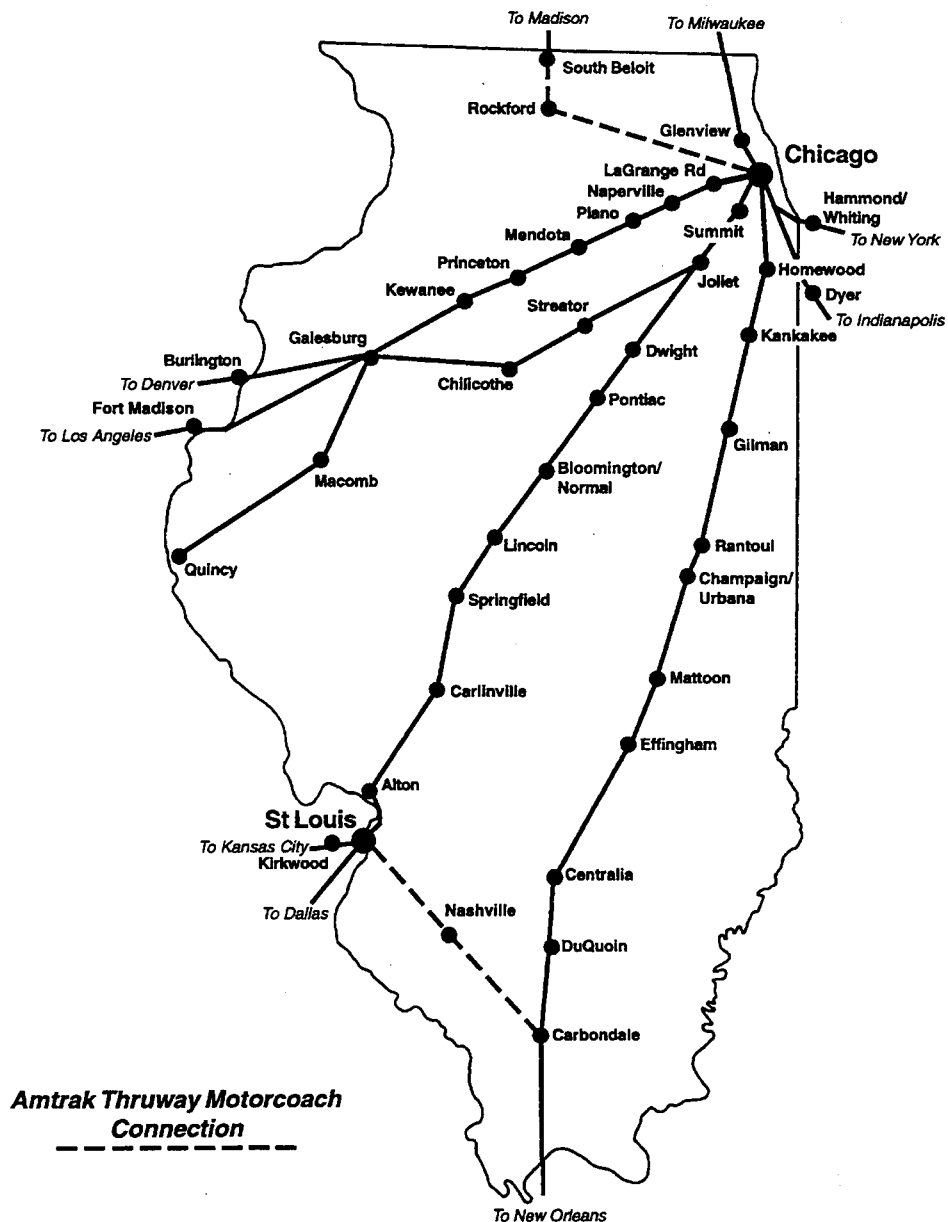
The department is continuing to explore ways to help provide service between Chicago and Milwaukee after the end of June 1997.

High-Speed Rail

The Chicago to St. Louis corridor was designated as a high-speed rail corridor under the federal Intermodal Surface Transportation Efficiency Act (ISTEA) in 1992. In May 1994, the state published a report entitled, *Chicago-St. Louis High-Speed Rail Financial and Implementation Plan*. This report indicated that high-speed rail service can be developed and operated with minimal new public funding. With trains traveling at top speeds of 110-125 miles per hour, travel time between Chicago and St. Louis would be reduced from the current five-and-a-half hours to about three-and-a-half hours. The projected increase in ridership would generate enough revenue to cover all the operating and maintenance costs and a portion of the capital improvement costs. The high-speed trains would not replace the conventional long-distance trains operated by Amtrak but would likely be used for the state-supported service in the Chicago-St. Louis corridor.

The department is currently conducting preliminary engineering studies which include preparation of an environmental impact statement (EIS) and a detailed analysis of proposed grade-crossing safety improvements for the Chicago-St. Louis corridor.

Amtrak Rail Passenger Routes



Work with local communities is under way to develop an acceptable grade-crossing treatment plan. Other major components of the study process involve analyzing potential train operating speeds, updating and correcting annual average daily traffic counts at all crossings, and analyzing train control and grade-crossing signal system needs along the proposed high-speed rail corridor.

A draft EIS is expected to be completed in early 1997. Following a review by state and federal agencies and a thorough public involvement process with public hearings and evaluation of all comments received, a draft Final EIS is expected to be delivered to the department by the end of 1997.

The department's approach to developing high-speed rail service is to incrementally upgrade existing track shared with freight trains. Work already under way includes testing a new grade-crossing protection system, improving tracks in the East St. Louis corridor segment and developing an advanced train control system.

Vehicle Arresting Barrier. The department has received Federal Section 1010 funds to demonstrate the use of Vehicle Arresting Barrier (VAB) technology at rail-highway grade crossings for improved protection. The VAB system consists of a net that is automatically lowered with the warning gates to block the road and catch a vehicle that fails to stop at the crossing. It has been used in various other traffic situations, such as at the reversible lanes on the Kennedy Expressway in Chicago.

VABs will be installed at three locations to test the applicability of the system to rail-highway grade crossings. The sites are TR 35A, 3.03 miles south of Chenoa in McLean County; US 136 in McLean, also in McLean County; and Hawthorne Street in Hartford, Madison County.

Installation of the units is anticipated to begin in the spring of 1997. A thorough evaluation of the VAB system will also be performed.

East St. Louis Project. The department was awarded a \$3-million grant from the Federal Railroad Administration (FRA) that will be used to rebuild and signalize tracks in the East St. Louis area. This project, along with track improvements from East St. Louis to Granite City, funded jointly by two freight railroads and the department, will shorten the current Amtrak route and will cut travel time by 20 minutes. The demonstration project is intended to address "bottleneck" segments along an existing shared passenger/freight route by

solving a common problem of slow travel times along the approaches to stations within congested metropolitan areas.

Positive Train Control. Illinois has also been selected to participate in a federal pilot project for development of what is called a positive train control system. This will replace conventional wire-based communications with a system relying on wireless transmissions. A portion of the Chicago-St. Louis corridor, a 120-mile segment between Springfield and Dwight, will be used for the demonstration. This advanced train control system is a critical component of high-speed rail development in a rail corridor with numerous grade crossings where slower-moving freight trains and high-speed passenger trains would share the same right of way.

The project is estimated to take approximately four years. The first phase of the project includes preliminary engineering and preparation of the corridor segment to accept the advanced train control components. Work is expected to begin within the next 9-12 months, with completion within one year from project startup.

Rail Passenger Capital Funding Needs

The department currently has identified \$9.5 million in capital improvement projects that will benefit rail passenger service on state-supported trains. The total includes station projects totaling \$2.3 million, \$5.7 million for signal and track improvements on the St. Louis corridor, and \$1.5 million for track and signal improvements on the Quincy corridor.

Development of the high-speed rail corridor ranges from \$349.5 million for the Joliet alignment to \$436.1 million for the Peotone alignment. This includes \$93.5 million for seven train sets, each with one high-speed diesel locomotive and five train cars with tilt suspension, and \$13 million for maintenance facilities, with the balance for trackwork, signaling, grade-crossing improvements, fencing, and possible acquisition of the corridor right of way.

Of the \$436.1 million required for the more expensive alternate routes, the department estimates that approximately \$313 million can be funded out of operating revenues from high speed service and from existing funding programs for upgrading rail-highway grade crossings. This assumes that a private partner will be able to secure financing for necessary capital investments based on an adequate future income stream from farebox revenues. It is possible that competition

for grade-crossing funds might postpone attainment of necessary improvements at all crossings.

The total estimated cost for the positive train control project is \$30.9 million. Of this amount, \$17.2 million in federal, state, and private funds are committed, leaving \$13.7 million that is still needed to complete the project. Estimated unmet capital cost needs sum to \$146.3 million. (A table of intercity rail needs is found in Section O of the Appendix.)

Summary Table			
<u>Capital Improvement Needs in Millions of Dollars</u>			
	Estimated Cost	Funding Available	Funding Shortfall
<u>Preserve Existing Service</u>			
Track & Signal Improvement	7.2	0	7.2
Station improvements	2.3	0	2.3
<u>High-Speed Rail Upgrade</u>			
Positive Train Control	30.9	17.2	13.7
High-Speed Rail Capital Cost	436.1	313.0	123.1
Total	476.5	330.2	146.3

CHAPTER X

PUBLIC INVOLVEMENT

The Illinois Department of Transportation welcomes public comments regarding any state transportation issue. Individual comments can be forwarded to the appropriate district offices at the addresses listed on the map on the following page or to the Office of Planning and Programming in Springfield at the following address:

Illinois Department of Transportation
Office of Planning and Programming
2300 South Dirksen Parkway, Room 307
Springfield, Illinois 62764
Attn: Public Involvement Coordinator

Individuals can also contact the department concerning planning, programming, and public involvement issues at 1-800-493-3434. The relay number for people who are hearing impaired is 1-800-526-0844.

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DISTRICT 7

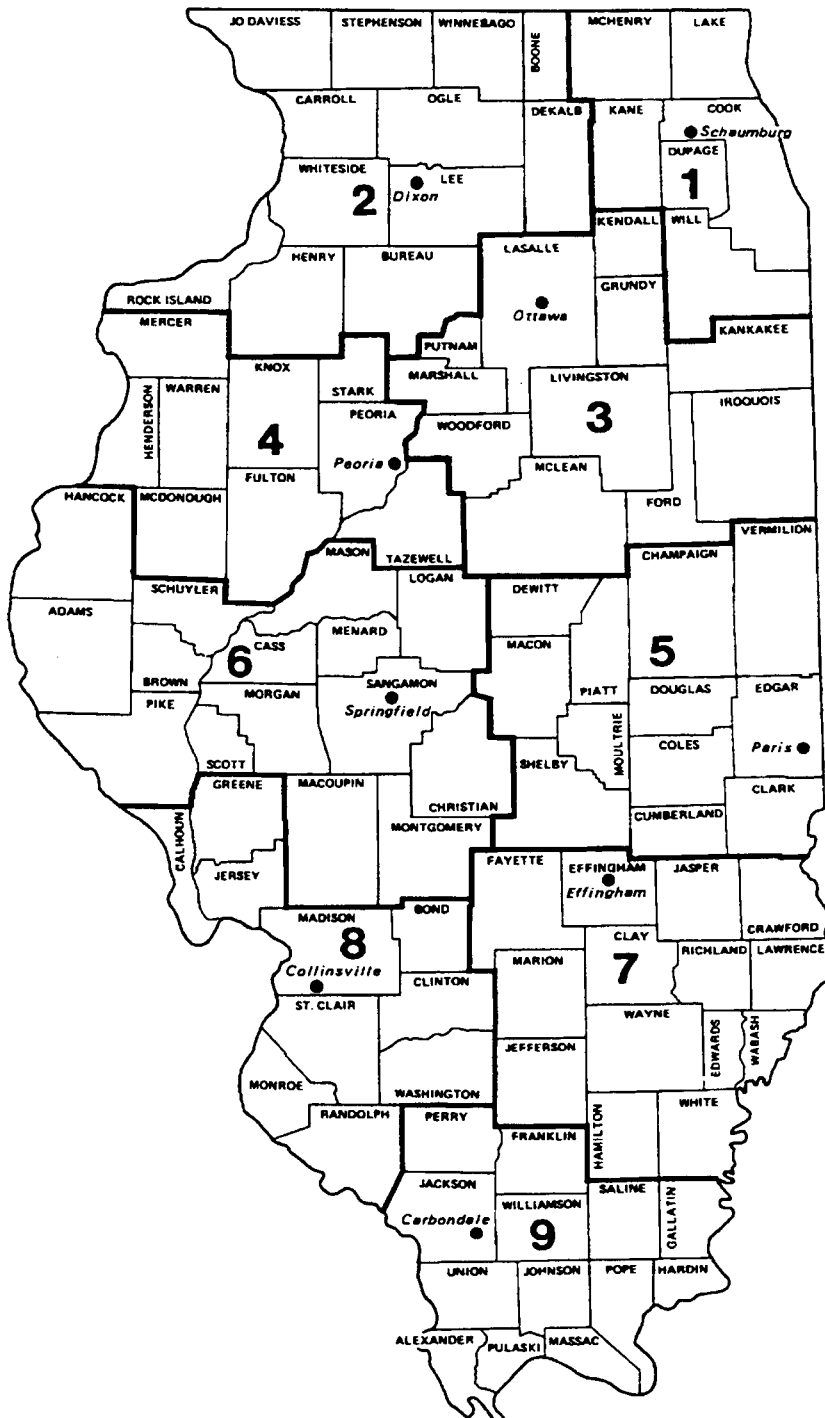
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JANUARY 1997

KEY TO ABBREVIATIONS

AASHTO - American Association of State Highway and Transportation Officials

BAC - Belleville Area College

CAFE - Corporate Average Fuel Economy

CATS - Chicago Area Transportation Study

CTA - Chicago Transit Authority

EIS - Environmental Impact Statement

FRA - Federal Railroad Administration

FY - Fiscal Year

GRF - General Revenue Fund

ISTEA - Intermodal Surface Transportation Efficiency Act

MFT - Motor Fuel Tax

RTA - Regional Transportation Authority

SBI - State Bond Issue

SRA - Strategic Regional Arterial

SRT - Strategic Regional Transit

TR - Township Road

VAB - Vehicle Arresting Barrier